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Address

IDEAS AND IDEALS IN MEDICINE.*

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Some thirty odd years ago, when I listened to my first lecture in medicine, the professor of anatomy told the following story: In the twenties of the last century there was a professor of medicine in Berlin, let us call him Schultz. He had under his care a patient suffering from a severe diarrhea, which he could not check. One day he met Dr. Heim, one of the most popular practitioners of that day, and asked him to see the patient and prescribe for him. The professor called on the patient later and found that Dr. Heim had prescribed a strong laxative. He wondered at such a procedure, but permitted the patient to take the medicine. Next morning, when making his call, he saw from afar that all the windows of his patient's room were wide open; he thought the patient was dead. On entering the sick chamber, however, he found him sitting up and smiling. He recovered rapidly. On meeting the doctor again, the professor said: "Heim, you were right, the remedy cured the man; but what idea did you have in prescribing it?" "Idea," said Heim, "idea? I never have an idea when I prescribe. I simply saw that the man had a 'laxative face' and so I prescribed a laxative."

Here, we had, on the one hand, a professor, presumably full of ideas, who could not help his patient, and, on the other hand, an idea-barren practitioner, who at a glance knew the trouble, and with one prescription cured it. Curiously, my sympathies were not on the side of that idea-immune healing artist. Since then I have seen many who by one glance at the face knew that the patient had a torpid liver and required calomel; I knew and know many in whose success as popular physicians profusion of ideas has no share. Still, I am not converted. I still believe that medicine and mankind would fare better if we had fewer of them. So, when I was honored with the invitation to deliver an address at your annual meeting my thought turned to that problem, and I decided to make it the subject of my discourse.

I am going to make some general remarks on the somewhat strained relations existing between thinking and acting, between facts and ideas; and to plead for the proper place—for a large place—for ideas and ideals in medicine.

There is a natural antagonism between thought and action. This is not confined to the theory and practice of medicine; it manifests itself wherever the phenomenon of voluntary action makes its appearance, and it has a wider scope than human nature. I shall confine what I have to say to the domain of medicine.

Permit me to illustrate one side of the fundamental problem by an experiment in physiology. Let us assume that we have before us two frogs, which we shall name A and B. With some acid, say dilute sulphuric acid, we paint a spot on the front of the left chest of Frog A. It will probably reach out the left leg and try to wipe away that acid with the foot, or the toes. If it does not succeed in reaching the burning spot with the left leg it also gets prompt assistance from the right hind leg. Let us repeat this procedure with Frog B, painting any part of the body with the same acid. It does not attempt to wipe off the acid, but jumps away, with the acid on it. Which of the frogs acts more to the point; which acts more sensibly? Clearly, Frog A. Let us examine them.

Frog A is decapitated for some time; Frog B is normal. Here we have it. A brainless frog acted more to the point, more sensibly, than a normal frog with an intact brain. This is not a fanciful experiment; it is a fact. Would any one be willing to draw the conclusion from this fact, that it is better to be without a brain?

Permit a side remark here. If the animal friends of your city, and my city, who value the lives of cats and dogs more than the lives of their fellow-men, would watch our experiment on Frog A, whose head need not be removed but only the brain destroyed, would they not exclaim: How cruel! Or, take this experiment. If you remove a certain part of the brain in a frog that animal will respond promptly with a croak every time you touch a certain spot on the skin. It is the well-known croak reflex of Goltz. The ignorant agent appointed by an antivivisection society would at his inspection consider the groans as a proof that the animal feels pain, and would report the experiment as an act of cruelty. Who of these ignorant, misguided people is capable of distinguishing between a conscious sensation and a reflex act?

The performance of Frog A, the decapitated frog, is simply a reflex act. An impulse is carried from the periphery to the spinal cord, from which it is transmitted with the least possible delay through the motor nerves to a group of muscles which contract in a coordinate, seemingly purposeful manner. When the brain is intact, inhibitory impulses are sent down to the cord in which the sensory impulse is then retarded or entirely inhibited. Any action is prompt, when it is carried out by a reflex with which the brain does not interfere.

The antagonism between thinking and acting has a deep-seated foundation in the organization of our nervous system, but it does not follow that we have to submit to its dictates; that we should not strive to over-

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come the evil consequences of this natural antagonism by education, by training and by proper distribution of mental and physical energies.

Turning again to our main subject, to medicine, I wish to say that my experimental tale permits the following moral: Just as the prompt practical action of the decapitated frog can not induce us to accept the conclusion that the brain is an undesirable appendix, just so the success of the thoughtless practitioner should not induce us to accept the principle that thinking is an undesirable incumbrance in medicine. As I have indicated at the beginning, it is the existence of the successful practical physician which militates against the necessity of ideas in medicine. Let us examine what the success and the practicality of these physicians actually signify.

Let us first look closer at the actual value of success as an argument in our discussion. By success we can not mean the possession of a goodly number of grateful patients; this can be acquired, as you all know, by means extraneous to the science of medicine. By success I mean the reputation of a physician among his brother practitioners as being a good diagnostician and as having success in treatment. It is a fact that there are many physicians in this country and elsewhere, who have and honestly deserve such an excellent reputation, and who care nothing for ideas and theories in medicine.

What does it prove? Such good men not only exist now, but they existed everywhere and at all times. They existed a hundred and many hundred years ago. They existed when nobody knew any difference between typhus and typhoid fever, when there was no auscultation or percussion; they existed, when diseases were recognized by simply looking at the urine. They existed when treatment meant absolute nonsense, or, still worse, meant danger for the patient. Would you be willing to assume that the celebrated physician of his time, who diagnosed the disease by looking at the urine, was really a great diagnostician? But, he honestly merited his reputation at his time. Or do you really believe that the successful, celebrated physicians of their time, who cured their typhus or yellow fever patients by blood letting, purging and emetics, did cure them and not rather hasten their end? But some of these physicians were great men at their time. Surely, you do not doubt that one of the founders of your alma mater, the celebrated Benjamin Rush, honestly deserved his great medical reputation! No, gentlemen, the practical success of any medical man at any time, be it ever so honestly merited, can not be utilized as an argument in favor of their ideas or their contempt for them. Why this is so I shall not stop to discuss. When you will be in the thick of the fight you will see the reasons for yourself.

As to the highly praised practicality in medicine, let us look at it from the following point of view. A man is a mechanism and a watch is a mechanism. However little one may know of the mechanics of life, he will know this: The complexity of the mechanism of the human machine compared with that of a watch is like comparing a billion of dollars to a single penny. Now, imagine that your watch gets sick, it stops or goes too slow or too fast, and there is nobody who knows its mechanism or can open the case. What would you do? You would shake it, beat it gently, turn it on all sides until somebody who knows better—there is always somebody who knows better than you—will take the watch out of your hands and do all the manipulations over again. You know that, sometimes, after shaking, a watch starts going again. Let us assume that in some village in darkest Africa, traders or missionaries are importing watches, but not watch makers. There will soon develop a set of men who will claim to know how to handle diseased watches. Would you like to trust your watch to the hands of such healing artists?

No doubt this seems absurd to you. But, gentlemen, look at it closer and you will find that the position of the healing artists of crude empirics is not much less absurd. They starve the patient or they overfeed him; they rub him hard; they rub him gently; they wrap him up warm or bathe him cold; they put him on the roof; they send him to the woods. They purge and sweat him, they bleed and blister him, not to speak of the innumerable mineral compounds and vegetable medicines which they make him swallow. But when you ask: What idea is behind all that? you get the answer: Never mind the idea, it is practical; so and so many patients got better under these methods of treatment. But the absurdity of it! Without any knowledge of the immensely complex mechanism of the living animal body, without any knowledge how these various procedures and mixtures affect the healthy and the sick body, to subject a poor broken-down human being to all these procedures, with not much better justification than that of my imaginary practical watch doctor! And how if those who got well got well not on account of the method of treatment, but in spite of it? And, still worse, how if some did not get well just because of it? As to the value of practical experience, let me again remind you of the various practical experiences of the past generations, the reliable practical experience of one generation which was nothing and worse than nothing to the next generation!

At the same time, we must bear in mind that the barren practicality of the successful practitioner is not yet identical with empirical medicine. Even the crudest empiricism in medicine has its positive merits. If we had no watchmakers, even my imaginary watch healer would not be such an absurdity. But the activity of some of the thoughtless but successful practitioners is not based on empiricism, on actual experience; it is simply habit. They continue doing what they have done so long; it is easier, it requires no effort. They began doing it, because they saw others do it, and accepted it without examining its merits, without criticism. The practicality of many idea-barren successful practitioners has as its basis non-critical belief at its start and mental laziness during its continuation.

I have tried to show you that the practice of medicine on the basis of crude empiricsm alone is well-nigh an absurdity, and moreover that the success of the purely practical man in medicine is a negligible factor in a serious discussion of the value of ideas in medicine. Let us turn to a brief review of the rôle which ideas played historically and a consideration of the rôle which they are entitled to play in the science and practice of medicine.

At the outset, let me remind you that I said I wished to plead for a place for ideas in medicine—that I did not say for their dominance. On the countrary, I wish to emphasize that the dominance of ideas, of theories in medicine is as little desirable, as the dominance of crude empiricism, and perhaps even still less so. The history of medicine tells many a discouraging tale of the harm which the autocracy of ideas is capable of doing to med-

icine. It is not unprofitable to glance at the root of that evil; we may perhaps thus learn how to avoid it best.

We now distinguish two methods of investigation in any branch of science; the deductive and the inductive method. In the deductive method numerous laws are deduced from very few given axioms. In the inductive method the opposite takes place; a few laws are abstracted from numerous observations. These two methods have a natural and historic foundation. The objects of investigation fall naturally into two classes: Those which occur within the human mind and those which occur outside of it. The objects of the first class are all within reach of the investigating mind. These phenomena were, therefore, the first objects to which the great minds of the classic thinkers were turned. It was discovered that only a few axioms were at the foundation of all forms of thinking. On the basis of these few axioms the magnificent structure of the purely mental sciences was erected. It is astonishing how nearly completely the sciences of logic and mathematics were developed at such an early epoch of human civilization. The thinking and investigating efforts of the subsequent thousands of years could add proportionately little to the fundamentals of these sciences. But when the same great minds turned their attention to the phenomena of the world outside of the mind, then the trouble began. From the outset the fatal mistake was made in the assumption that here, as for the objects of the mind, a few facts would be sufficient to construe a science of the knowledge of the outer world. Conceptions were then formed as to the nature of the phenomena of life as well as of the other phenomena of the outer world, in which actual observations had only a small share; the idea was the all-dominant factor. While the theories changed with the philosophers and the changing generations, the method of studying nature remained practically the same for many centuries.

Medicine fared no better than the other natural sciences. The efforts of Hippocrates, of Galen, and of a few others to increase the knowledge of medicine by the gathering of more facts, and to increase the esteem for actual observations, brought no permanent results. On the contrary, their authority, especially that of Galen, paralyzed the proper development of medicine for many centuries. Next to the overestimation of the importance of ideas in natural sciences, it was the unconditional belief in authority which hindered the progress of medicine and of natural sciences.

The new era for natural sciences began with the general awakening of the human races in the European countries, with the rebellion against tradition and authority in all branches of human activity; in religion, in political government, in art, and in the sciences. It was then also finally conceived that the outer world can be recognized and understood only by extensive, unbiased observation, and not by simple mental dictates; and the inductive method of investigation in natural sciences was born. It was also soon recognized that abstraction alone even from ever so many observations is not sufficient to establish a general principle, and that next to the accumulation of facts it is the experiment which gives stability to a theory. Furthermore, it was recognized that the theory is to be utilized for bringing out new facts. Finally, the opinion gained foothold that in the development of new facts lies the chief value of theories.

The pure idea was thus dethroned from its all-dominating position; it was relegated to second place in research in natural science. Henceforth the progress of these sciences was continuous and the results marvelous. Unbiased observations, keen experiments and auxiliary theories worked hand in hand to unveil the mysteries of nature. The results were great. This harmonious activity in research not only created real knowledge, but led up to practical results, to the marvelous technical creations of our day. They also led up to the establishment of a few leading principles, like the laws of gravity, the conservation of energy, the atomic theory, the law of natural selection. But even the permanency of these well-sustained theories is not assured.

With the opening of the new era medicine, too, took a new turn. The assault of Paracelsus shook the foundations of the traditional medicine of Galen. Vesalius inaugurated the study of anatomy on the sound basis of direct observation, and physiology also made some headway on the basis of the inductive method. Nevertheless, medicine proper, the knowledge of diseases and their treatment, remained for centuries still a prey of ideas, of ever-changing theories. The schools of the iatrophysicists, of the chimiatres, the Brunonian theory of irritability, the theory of vitalism and some other purely theoretic creations dominated consecutively the science and practice of medicine up to the last century. We shall not stop to discuss here the causes of this backwardness of medicine in comparison with the progress of other natural sciences. This very point was not grasped, the idea, namely, that medicine is a natural science and has to be studied by the same methods now firmly adopted for all the natural sciences.

The present era in medicine began practically only about the middle of the last century. It received its strongest stimulus in Germany, where the dominance of the pure idea in its worst form lasted longest—I mean the dominance of the idea of the vital force. The revolution—it was a revolution, and not an evolution—was brought about by the brilliant pupils of the great physiologist, Johannes Müller. Helmholtz, du Bois Reymond, Ludwig, Brücke, Henle, Traube and Remak played an important part in achieving the great result. But none greater than that unique combination of a great intellect, a burning love for truth and a great fighting capacity—that immortal master mind—Rudolph Virchow.

The dominance of pure ideas in medicine was a great obstacle to its proper development, and probably a much greater obstacle than the crudest empiricism could ever have been.

The chief difficulty with which medicine has to contend is that which I have indicated before: the apparent hopelessness of the task to repair a mechanism of the construction of which we possess so little knowledge. The perplexing embarrassment could not be relieved by simply guessing the hidden rest. It is a million to one that we guess wrong. It is no fatal mistake if we guess wrong in paleontology, embryology or even astronomy. The wrong guess lasting for centuries that the sun revolves around the earth has apparently done no great harm. But the wrong guess in medicine might lead to killing instead of curing, and the worst of it is, we might not even know it.

But the apparent hopelessness of the task should neither lead us to a wrong step nor to despair. In the course of merely a few decades diligent investigations by proper methods have already succeeded in shedding a great deal of light on many parts of the mysterious,

living organism. There are good reasons for the optimistic hope that by the proper adjustment of experience and ideas in a diligent search, medicine will become an effective, practical healing science.

Let us now consider some of the principles which made research in modern medicine effective and fruitful.

The first step is to uncover the gaps of our knowledge. Better to admit frankly our ignorance than to be misguided by unsustained theories or erroneous observations. It is, therefore, of great practical value to be imbued by an honest, healthy skepticism which leads to great watchfulness and to a frequent re-examination of the apparently secure old principles. I do not mean a flippant, paralyzing skepticism born of a natural spirit of contradiction, but a skepticism of a truth-seeking, logical mind which leads to action, to investigation.

The investigations must be carried on by the empirical method, i. e., by a diligent, unbiased observation of facts, but great care has to be taken not to confuse a fact with a conclusion. Let us take for illustration the following simple observation. A physician has given, perhaps for the first time in his life, a dose of an antipyretic, let us say, five grains of phenacetin, to a pneumonia patient with a temperature of 105 F. on the seventh day of the disease. The temperature dropped to normal and the patient got well. The non-critical physician might record it as a fact that five grains of phenacetin reduced a temperature of 105 F. to normal and cured the patient. But this was not a fact; it was a conclusion and a wrong one. The phenacetin did not cure the pneumonia; the cure was accomplished by the crisis which accidentally set in after the giving of the phenacetin. Possibly, the reduction of the fever was essentially also due to the crisis. What the physician actually observed were the three facts following one another, (1) the giving of the phenacetin, (2) the reduction of the fever, and, (3) the recovery of the patient. The connecting of the three facts was an idea, a theory, of which the physician was not aware that it was an act different and separate from the facts he actually observed. This confusion is a frequent occurrence, and in circumstances where the process is not so transparent as in the cited instance. Many statements which are recorded as facts are nothing more than biased subconscious conclusions. It requires a critical mind to observe a pure fact.

While the watchfulness of the mind is required for the acquisition of facts, its activity becomes indispensable when it comes to the correlation of the collected facts. Here is where the idea becomes the important factor in the creation of knowledge. A simple sum of discrete facts is neither knowledge, nor can it yield practical results. Let me cite a brief story of a modern chapter of research. It will illustrate the value of an idea in reseach, the value of a right and even of a wrong idea, if used properly.

Previous to the ninth decade of the last century the thyroid gland was considered as superfluous a thing as, let us say, the appendix. Then came two independent, entirely disconnected statements. Kocher of Berne reported that patients whose goiter was completely removed showed a peculiar pathologic picture. The other statement came from W. Ord, of London, who performed an autopsy on a patient with that peculiar disease shortly before described by Gull. Various pathologic changes were found; the predominant one among them was the great accumulation of large masses of myxedematous tissue, which led to the designation of this disease as myxedema. One of the findings was that this patient had no thyroid. It was the simple record of a post-mortem finding and possibly would have escaped notice. But when both statements were put together the hypothesis sprang up that the thyroid might be a vital organ, and in its congenital or acquired absence such profound pathologic symptoms develop as present themselves in the cases of myxedema or in the cases of cachexia strumipriva of Kocher.

This hypothesis was now tested on animals, but at first with unsatisfactory results. In rabbits and other animals the removal of the thyroids was practically without any effect. In dogs the effect was profound, the animal died, but the preceding symptoms differed from those seen in the above-mentioned states in human beings. Soon, however, two experimental facts were hit on which apparently proved the correctness of the hypothesis. Grafting of thyroids into the peritoneal cavity of thyreodectomized dogs saved their life and feeding of patients with animal thyroids relieved their symptoms. However, while the hypothesis seemed to have thus been settled, some discrepancies remained unexplained. The symptoms of myxedema differed materially from those of cachexia strumipriva, tetany being the predominant symptom in the latter.

Then the question of the immunity of such animals as the rabbit remained a mystery. Many auxiliary hypotheses were made, but offered no real satisfaction. Another fact presented itself. Early in the ninth decade Sandstroem described some tiny bodies seen in the neighborhood of the thyroid glands, which looked almost like the fat tissue in which they were embedded. Sandstroem called them parathyroids and assumed that they were persisting embryonal thyroid tissue. This assumption gave rise to a new hypothesis conceived by Gley. He thought that in the absence of the thyroid the parathyroids assume the function, and vice versa. In the rabbit there are two free parathyroids.

Gley tested his hypothesis. When he removed the thyroids alone or the parathyroids alone, the animal remained normal. But when he removed the parathyroids and the thyroid, the rabbits showed tetany. Now the hypothesis seemed to be proved. Soon, however, two more facts were established. First, it was shown that the so-called parathyroids are neither embryonic tissue nor do they have anything to do histologically with the thyroid; they are an accumulation of epithelial cells. Second, it was found that in the rabbit two more epithelial bodies are imbedded within the thyroid glands. The suggestion was now made that in the experiment of Gley, in which tetany followed after the removal of the thyroids and parathyroids, the result was due not to the simultaneous removal of the thyroids, but to the complete removal of the parathyroids.

This new hypothesis was experimentally tested by Vassale and Generali, and it was found that the removal of the four parathyroids without the removal of the thyroids leads to tetany. Numerous further experiments have now cleared up the entire problem. Thyroids and parathyroids have different functions: the removal of the thyroids leads to a myxedematous state, and the removal of the epithelial bodies, as the parathyroids are now called, leads to tetanic conditions. There is already a report on record of a successful grafting of the epithelial bodies.

These are marvelous chapters in the history of modern medical research. The physiology, pathology and treatment of the organs were revealed within a comparatively

short time, organs whose function was absolutely unknown only three decades ago. In one case the very existence of the organ was unknown. In these brilliant results physics and chemistry, from which in our generation all good is expected to come to medicine, had not the slightest share. It was the combination of clear-headed clinical and surgical observations and biologic experiments, which developed these model chapters of modern medicine.

Now, let us glance at the methods employed in these investigations. There were only a few facts gained by pure observations, the balance was yielded by hypothesis, tested and clarified by experiments. Even the wrong assumption of Sandstroem that the epithelial bodies were embryonic thyroid tissue was a useful link in the final development of the correct knowlege, inasmuch as it gave the stimulus to Gley's hypothesis and experiments. It is not an infrequent phenomenon in modern investigation that a hypothesis which proves later to be erroneous might, nevertheless, be instrumental in bringing to light important facts. There is only one indispensable requirement for a hypothesis: it must be provided with a safety guard—the experimental test.

However, the chapter on the epithelial bodies is not yet closed; there is a very interesting end to it. Only a few weeks ago, McCallum and Voegtlin, of Baltimore, published an important preliminary communication to the effect that the tetany in dogs following removal of the epithelial bodies can be inhibited for twenty-four hours by the intravenous injection of a solution of a calcium salt. Injection of potassium salts increases the tetanic state; calcium salts are able to inhibit also this aggravated state, but a larger dose of it has to be given. Here we have an important therapeutic result with a view of finding the deeper cause of the tetany. McCallum and Voegtlin think that the removal of the epithelial bodies causes a deficit of the calcium ion in the body, which is then the further cause of the development of tetany. This is a hypothesis which must be tested by further experiments. But it is interesting to know that apparently it was this hypothesis which brought out a remarkable fact. Furthermore, this hypothesis is only a special application of a general hypothesis advanced by Jacques Loeb, a master biologist of this country, some time ago to the effect that calcium is essentially an inhibiting agent. Now we have, it is believed, satisfactory evidence that this hypothesis is erroneous. Permit me to lay this evidence before you.

Some time ago Dr. Auer and I found that subcutaneous or intravenous injection of a magnesium salt puts an animal into deep anesthesia and paralysis, from which it does not recover if the dose is too large. We discovered this fact on the basis of a hypothesis that magnesium favors inhibition in the animal body. We have recently discovered that this profound effect can be nearly instantaneously reversed by an intravenous injection of a calcium salt. The animal which seemed lifeless wakes up immediately after the injection of the calcium solution, turns over, sits up and moves around like a normal animal. It looks like a miracle. This action of calcium is certainly the opposite of an inhibitory effect. For this and other reasons we believe that Loeb's theory regarding the inhibitory effect of calcium is not well founded. The facts from which this theory was derived were observed well enough. Furthermore, this theory brought to light a number of valuable new facts. We see here, again, that a reasonable theory, even if erroneous, is capable of being fruitful in the right direction.

For the creation of new knowledge we need well-observed facts, ideas and the experimental test. To my mind the idea is the most important factor, although the idea without a fact is absolutely nothing. When we express the final result by the figure 10, then the relations of the idea to the fact is that of the 0 to the 1 in this figure. The idea alone is naught, but in combination with a fact it makes the fact ten times more valuable, and the profounder the idea the higher becomes the value of the fact.

I use the term idea synonymously with hypothesis, because each idea is nothing else than the interpretation of a presumable fact; it is a hypothesis. We may divide all hypotheses into two classes. Into one class we may put all such hypotheses which are amenable to a test. They may sooner or later be proved or disproved. This class of hypotheses is not only useful, but is absolutely indispensable. It is for this class of hypotheses that I wish to reserve the term ideas: they are realizable ideas. There is, however, another class of hypotheses which by their very nature are not amenable to a test; they can never, or at least not within a reasonable time, be proved or disproved. This class of hypotheses I designated as ideals; they are unrealizable ideas. They are surely not indispensable within the domain of research, but they can be useful and, perhaps, even desirable. Such a hypothesis, for instance, is the statement often made by biologists that all phenomena of life are nothing else than physical and chemical combinations. Obviously, this assumption is not amenable to a test. If any one chooses to assume the opposite view, namely, that the phenomena of life contain an element which is outside of the domains of physics and chemistry, this view could not be disproved—can not be disproved within a reasonable time. I shall not say "never," because this in itself would again be a theory. Hypotheses or theories of that kind are ideals, they are guides; they give a stimulus to thought and, perhaps, also to action in a certain desirable direction. But one should be aware, especially should scientists be aware, that ideals are not scientific theories, they do not deal with the provable.

With regard to the hypotheses of the first class, we have to bear in mind that their mission is twofold: to establish the truth they may contain and to bring out new facts. The realization of the first mission of some hypothesis is often unattainable by the present-day methods, and in this regard they border on the class of hypotheses which I termed ideals. They may, however, have a great actual value by their ability to bring out new important facts. Such a great idea, for instance, is the side chain theory of Ehrlich. It is more profitable for the progress of our science to stick to the second mission of our ideas, that is, to the production of new facts; and if I have before me two possible lines of work, one to prove the correctness of my hypothesis and the other to bring out on the basis of this hypothesis some new facts, though they may not prove absolutely the correctness of their progenitor, I always choose the latter line of work. Facts, real facts, are immortal. But theories? The nineteenth century is like a monumental cemetery, in which numerous brilliant theories have found early graves. $t is not likely that the twentieth century will be different. But what does it matter? *"Der Mohr hat seine Schuldigkeit gethan, der Mohr kann gehen."*

So far I have dealt with the rôle of ideas and ideals in the domain of medical research. Permit me to continue the discussion of the value of ideas and ideals in the other domains of our science. I mean the domain of teaching and that of the practice of medicine. I shall discuss both domains together. My time limit is in sight and I shall be brief.

The essential task of teaching medicine is to prepare for practice. And the essential task of the practice of medicine is its purely practical part: to prevent and cure disease and to alleviate suffering. To be in practice essentially for the sake of science, that is, to study diagnosis and obtain postmortems, is, to my mind, mentally and morally wrong. It is on this basis and not purely in the interest of science that I wish to plead for ideas and ideals in the practice of medicine.

To get the habit of thinking in the practice of medicine is, to my mind, the best means for obtaining a practical end. And if you get the habit the process will be no effort, it would not consume too much of your time, and it will never paralyze your activity, you will know what you may and ought to know of each case, and you will also become aware of the natural limits of your knowledge in each particular instance; all of which is a great aid in deciding on and guiding your activity. You will further know what you can do and have to do, and you will do it quickly, and you will also be clear as to what you ought not to do. You will, then, always do what Nature and the present state of knowledge permits and requires, and you will never do harm. Habitual thinking is a great aid to proper action and not a hindrance to it.

Disease is not like a piece of goods put in a box with a label on it which you need only to read in order to be able to deliver the goods. If you look at it closer, you will find that every disease you have to deal with is a piece of research, and every treatment is an experiment. You have to learn to observe the pure facts in the case, but you have also to learn and to practice how to make a proper hypothesis, to get the most probable idea. Then comes the experimental test, the treatment. Short cuts from the symptoms to the treatment, with avoidance of the tortuous path leading over the idea are not practical roads; on the contrary, they may lead to danger. The short cuts from fever to phenacetin, from abdominal pains to morphin, etc., not infrequently entailed pretty bad consequences for the patient.

It might sound paradoxical when I say that our advanced modern methods are not favorable to the cultivation of thinking, of ideas, in the practice of medicine. There is a tendency to pathognomonicity in modern diagnosis. I shall not speak of such important pathognomonic signs as the presence of the tubercle bacillus in the sputum and in the urine, the presence of the malarial plasmodium in the blood, or the histologic diagnosis of malignancy in neoplasms. But even here error is possible. I know of a case in which an accomplished consultant and a good family physician agreed on the diagnosis of malaria on account of the presence of the plasmodium in the blood. The woman, nevertheless, continued to be sick until a few months later, when she was finally cured surgically of her pelvic abscess. I know a strong young girl, 14 years of age, in whose case the surgeon, the consultant and pathologist agreed on the necessity of operating for cancer of the rectum on the histologic evidence that the stricture was malignant. She got well without the operation, by treatment for hereditary syphilis instituted by the physician in the hopeless minority who preferred to diagnose by circumstantial evidence.

I could cite many such personal experiences. Even the tubercle bacillus alone is not always an unfailing guide. But what shall we say of a Widal reaction in typhoid fever, of leucocytosis in appendicitis, of casts in Bright's disease, of the tuberculin test, etc.? They are all sometimes valuable contributory signs. But the practitioner becomes imbued with the idea that each one of these signs has a pathognomonic value. And those who do nothing but make such tests, without ever seeing a patient, acquire the belief, and spread it, that they are making the diagnosis.

A disease can not be recognized directly by microscopic, chemic or biologic tests, and can not be seen, heard, felt or smelled. Even a skin disease can not simply be seen; it has to be diagnosed. All that can be acquired by sense perceptions are only signs of a disease. The disease has to be diagnosed, and signs alone, be they ever so fine, are not yet a diagnosis.

In a diagnosis, as in a scientific research, there have to be two parts: facts and ideas. All training in making all sorts of tests without training of the mind to properly and rapidly correlate the collected facts in any given case is a failure. Of the two deficiencies, the deficiency in judgment and the deficiency in capability of performing all prevailing tests I prefer the latter. This I say from my extended personal observation. Besides, somebody else can make the tests for you, but you do not want somebody else to have the sound judgment for you. I have heard in consultation a fine report of a bacteriologic and microscopic account of typhoid fever, but the patient had meningitis. I have seen a progressive physician presenting a competent urinary study in evidence for Bright's disease, but it was nevertheless a case of malignant obstruction of the intestines. Furthermore, you must, in diagnosis, employ your mind in knowing for which facts to look, and how to interpret them properly.

Not all sensory perceptions are facts. Preconceived notions make you see what you expect to find. I saw a child in consultation, a case where pediatrist and aurist agreed on the necessity of paracentesis of the ear drum. But it was one of those cases of pneumonia with earache, in which the latter disappears with the crisis. I believe teachers and practitioners of medicine are laying too much stress on the art of collecting signs, and too little stress on the art of correlating them properly.

That is what I wished to plead for: more thinking in the practice of medicine. To be sure, learn the art of observation, but do not forget that the correlating idea is the leading factor, the supreme judge; cultivate the art to use it properly and readily.

The aim of the practice of medicine is to attend to the sick. This is surely true. But there are other sides in the practice of medicine which the good men in the profession ought to keep in mind. It is the aid which practice can and should render to the science of medicine and its progress. By science of medicine I do not mean the auxiliary sciences like physics and chemistry, anatomy and physiology, or pathology and bacteriology. I mean the knowledge of the manifestations of diseases in the living human being and their course under various influences. For each branch in technology there is a scientific part. This, correlated to the practice of medicine, is the science of medicine, as I have defined it.

The future of the practice of medicine depends on the progress in its science. All the strides made in the auxiliary sciences, all the brilliant results brought to light by pathology, bacteriology and animal experimentation, attain their practical importance only by their applicability to the sick human being. Who is going to study this? With a full consideration for the patient a great deal can be studied on the sick man without doing him harm and with benefit to the progress of the medical science. Who is going to study it and who is going to be the efficient exponent of the science of medicine? Of course, such students have to come from the ranks of those who practice medicine. The pathologist and the bacteriologist, in their domains, are rendering great service to the science of medicine. But they can not be actual exponents of this science, they do not deal with the living sick man, nor with the entire man and all the manifestations of his disease.

The science of medicine is a natural science and must be studied by the same careful inductive methods as set forth above. The investigator in medicine must be an unbiased observer of facts; he must have the ability to conceive working hypotheses, and he must be able to devise proper experimental tests. The medical investigator must possess sufficient knowledge of the auxiliary sciences to be able to interpret the phenomena at the bedside. But, above all, the medical investigator must possess the same enthusiasm for purely intellectual work and a burning love for research and discovery as is possessed by investigators in other branches of science: qualities without which no great success can be attained.

Who is going to be such an exponent of the science of medicine? Gentlemen, this country is greatly in need of such exponents. The last twenty-five years brought a great change in the aspect of the purely scientific branches of medicine in this country. It is a change from nearly zero to a commanding position. A few intellectual men with high ideals have been instrumental in this change. Young bright men with idealistic proclivities were brought into the fold of each of these sciences. If those men would have devoted themselves to the practice of medicine, with their diligence and mental endowments, they would now be in the front rank of the profession. But they chose to study and to wait and to live on only a few hundred a year. To-day the country has no difficulty in filling chairs in anatomy, physiology, pathology, etc., with first-class men at salaries not equal to one-fourth of the incomes of their inferiors in the practice of medicine.

It is true that in this country, twenty-five years ago, medical science proper stood much higher than the pure sciences. But what is the actual progress made by medical science in this country during those twenty-five years? It is best not to enter into a discussion of the particulars of the actual situation. I shall only ask you to look at the smallest university in Germany, and at the high quality of even the third-rate man there, and you will know what this country lacks and what it needs. I believe we have in this country young men with as good brains as they have in Germany and other countries. The fine crop of home-made intellectual men in the various sciences demonstrates this. What we miss here is the proper scientific spirit, the proper ideals in medicine, ideals to influence the receptive mind of the oncoming young generation. What we need in this country is an army, be it ever so small, of new men in medicine, who possess modern knowledge, training in scientific methods and ability for research in medicine; and, above all, we need men who are possessed by the proper enthusiasm and idealism, men who prefer scientific to gilded success, and who have the willingness and energy to lead the rank and file of the oncoming generation into new paths for the elevation of the standard of science and practice of medicine for the benefit of the sick and for the welfare of the country.

My young friends, the aim of my address on ideas and ideals in medicine is to gain some recruits among you for that army of future leaders of medicine in this country, for your own benefit and for the glory of your alma mater.

Original Articles

COAGULATION OF THE BLOOD.

A SUMMARY, WITH ESPECIAL REFERENCE TO THE THERAPEUTIC EFFICACY OF THE ALLEGED COAGULANTS.*

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Apart from a brief historic sketch of the subject of coagulation and the current views as to the more or less theoretic principles underlying it, this paper does not deal with the more intimate physiologic aspects of the question. It is to be regarded rather as a consideration of alleged coagulants from the therapeutic standpoint.

THE PROTHROMBINS.

Sahli sums up the present views as to coagulation, based in large part on Morowitz's work. He quotes Morowitz as having described two prothrombins, alpha and beta: *A*-prothrombin, the one evidently studied by Hammarsten, changes into thrombin after activation by lime salts; β-prothrombin is not converted into thrombin in the presence of lime, but the change is brought about through the agency of alkalies, probably also by Schmidt's zymoplastic substance, and according to Morowitz by acids. Hence the apparent contradiction between Schmidt and Hammarsten as to the lime factor, for Schmidt was doubtless referring to β-prothrombin. Further, Morowitz showed that *A*-prothrombin has a forbear which he calls thrombogen. This latter originates in extravascular blood and is acted on by thrombokinase, *A*-prothrombin resulting.

THROMBOKINASE.

Thrombokinase, a thermolabile substance, is contained in all tissue juices and in extravascular blood. Nothing definite is known as to the origin of β-prothrombin, but it is probably a derivative of all cells. Apparently it bears no relation to thrombogen or thrombokinase. It is believed that the zymoplastic substance of Schmidt, said to be thermostabile, activates β-prothrombin to form thrombin and that weak acids and alkalies do the same, thus playing the same rôle as *A*-prothrombin.

This question of the thermostabile and thermolabile

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-eighth Annual Session, held at Atlantic City, June, 1907. Owing to lack of space, the article is here abbreviated by omission of the portions of the paper dealing with the history of coagulation, prothrombins, the calcium salts, the results of decalcification, and the technic. The complete article appears in the Transactions of the Section and in the authors' reprints.

substances in relation to blood coagulation is at best somewhat hazy. The subject is further complicated, too, by a consideration of the antibodies. For instance, plasma of pepton blood contains an antithrombin, while the kinase plasma of Morowitz obtained by intravascular injection of tissue juices (tissue fibrinogen of Wooldridge) contains an antikinase. It is supposed that normally intravascular coagulation fails to occur because thrombogen and thrombokinase do not exist free in the circulating plasma. As soon as the blood is shed and comes in contact with foreign substances the platelets break up and liberate thrombogen, to which it is probable that the leucocytes contribute and even the erythrocytes in minimal amount. This is purely speculative, however.

WHAT PREVENTS CLOTTING IN THE VESSELS?

Difficult as is the study of coagulation, the subject is much more formidable if we ask why, under normal conditions, does the blood not clot in the vessels? It can not be the constant movement of the blood, for outside the vessels, quickening the movement, as in whipping the blood, hastens clotting. Nor is contact with air necessary, as coagulation takes place in blood from which all air is excluded, as in collecting it over mercury for instance. Cold retards it, so cooling can not be a factor. Blood removed from a vessel through an oiled tube and caught in an oiled or waxed vessel remains liquid, but if agitated with an oiled rod no coagulation occurs, but stirring with a dry rod of any kind, even smooth glass, or the introduction of dust particles or other foreign matters will promptly determine coagulation.

This fact has been advanced to explain the absence, under normal conditions, of clotting within the vessels, the assumption being that the walls being kept wet, contact with them by the circulating-formed elements is prevented. In vascular lesions, however, in which roughening of the vessel lining occurs, it has been supposed that the blood elements actually come in contact with the walls, then in consequence break up and set free the thrombogen and thrombokinase. But this can scarcely be the only, or even the chief, reason, for though roughened by the diseased process, the lumen is doubtless kept wet. Hewson showed that blood could be kept liquid for a long time if retained in a ligated and excised vein.

Some of our observations show in a most striking manner the effect of hemorrhage in shortening the clotting time. The probable reason for this, according to Vierordt, is the absorption of tissue juices. This increased coagulability has been noted by us in certain diseased conditions, particularly the anemias, both primary and essential, and the following seems a reasonable explanation: The toxemia induces more or less hemolysis, thus liberating thrombogen and thrombokinase. At the same time capillary hemorrhages are not rare and probably tissue juices are absorbed. That the quantity of fibrin has nothing to do with intravascular clotting seems evident, for both Sahli and Litten agree that fibrin is present in normal amount in hemophilia. Again in pneumonia, where it is increased, thrombosis is rare, while in typhoid fever and anemia, where it is diminished, thrombosis is comparatively common.

POSTOPERATIVE THROMBOSIS.

Postoperative thrombosis may in part be explained by the increased coagulability resulting from the absorption of tissue juices. We have seen that foreign substances, as dust particles, for instance, are capable of inducing coagulation in blood caught in oiled or paraffined vessels. It is conceivable, therefore, that micro-organisms may play, in part at least, a similar rôle within the vessels, acting in fact both vitally—inducing hemolysis in some cases—and mechanically in the production of certain thrombi. It will at once be manifest, however, that, considering the frequent opportunity furnished both in medical and surgical cases for the entrance of micro-organisms, some predisposing factor other than the mechanical must be operative. Wright denies the general statement that foreign bodies hasten coagulation time. It seems certain that in some way coagulation within the vessels differs from extravascular coagulation.

Outside of the body many factors determine the coagulation time, for instance, the volume of blood and rate of flow, nature of the vessel in which the blood is received, the temperature—cold retards and warmth accelerates—duration of contact of blood with the tissues. Free blood from a deep incision is longer in clotting than blood oozing from a superficial wound. Pressure on the part, probably by increasing content of tissue juice, hastens clotting. The first drops of blood have a longer clotting time than those removed from the same wound some minutes later. Blood removed from different parts of the body has different clotting times. The ingestion of alcohol retards coagulation, as does a full dietary, while fasting hastens it, according to Vierordt, hence the time of day may be a factor.

FACTORS INFLUENCING COAGULABILITY.

Vierordt observes that alcohol prolongs coagulation and claimed that a hearty meal lengthened coagulation while fasting shortened the time. More recent observers find the opposite of this statement to be true—coagulation is quickened after a meal and lengthened by fasting. For the shortened coagulation following hemorrhage Vierordt offers what seems to us a most plausible explanation, viz., that the absorption of tissue juices into the depleted vessels quickens coagulation.

In catarrhal jaundice, diabetes, splenic anemia, phthisis and pneumonia Vierordt believed the coagulation time to be shortened. In hysteria and gastrectasia it remained normal. In typhoid fever the coagulation during the febrile stage was from one to two minutes longer than during convalescence.

During the last fifteen years A. E. Wright of England has published a series of papers setting forth in a most logical manner the results of his observations and experiments in the clotting of blood. His studies of nine or more hemophilic families and the treatment employed are most readable, not alone because of the large number of bleeders studied, but because of the almost uniform success met with in the treatment of hemorrhage by calcium salts, either by mouth or hypodermic injection and by the inhalation of CO_2. He, however, cautioned against the use of calcium hypodermically because of the slough which was likely to result. Epistaxis and superficial injuries in hemophilics were controlled by a local styphic composed of fibrin ferment and 1 per cent. $CaCl_2$.

The fibrin ferment can be obtained from either the clot or the serum of blood. He obtained it from the clot by receiving the blood into vessels containing three times its volume of water. This was set aside for a few minutes and stirred with sticks. The fibrin thus obtained was washed under a tap for about ten minutes until free from pigment. The ferment is then extracted by

adding from five to ten volumes of water to the fibrin and allowing it to stand twenty-four hours. It is then filtered. In this connection it may be stated that he demonstrated that coagulation is hastened by contact with tissues—especially unwashed tissues—while foreign matters, such as cotton, wool, etc., do not influence coagulation. Coagulation in his experiments was markedly increased by the addition to the blood of fresh lymph from blisters.

ADMINISTRATION OF CALCIUM SALTS.

Wright accepts in part only Wooldridge's statement that his tissue fibrinogen would coagulate blood. He claims it coagulates only venous blood and retards coagulation in arterial blood and is dangerous because of its tendency to induce thrombosis. He confirmed Horbaczewski's claim that nuclein increased leucocytosis and that leucocytosis increased coagulation in a series of hemophilics exhibiting subnormal leucocyte count. In his hands the calcium salts, especially the chlorid and lactate, CO_2, magnesium carbonate, cow's milk, because of the calcium contained in it, and nuclein increased the coagulability of the blood, while oxygen, fruit acids, oxalates, alcohol and fasting retarded coagulation.

By the administration of calcium salts in chilblains, swollen joints and urticaria from eating unripe fruit and

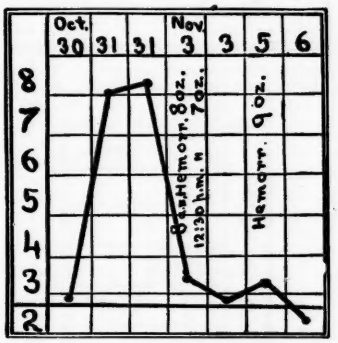

Fig. 1.—*Reaction to Hemorrhage.*—A. F., female, aged 23. October 30, fourteenth day of disease, coagulation time, 2:45; calcium content 1-500; leucocytes 7800. October 31, at 3:35 p.m., coagulation 8:00; calcium content 1-1000; leucocytes 6200; at 4:10 p. m. gave 1 dram calcium lactate; at 5:10 p. m., coagulation 8:05. November 3, hemorrhage of 8 oz. at 8:00 a. m. and 7 oz. at 12:30 p. m.; at 3:50 p. m. coagulation 3:10; calcium content 1-500; leucocytes 8400. Calcium lactate was given at 8:00 a. m., and 12:00 m. 20 gr., and at 4:00 p. m., 40 gr., at 5:00 p. m. coagulation 2:55; calcium content 1-1000; leucocytes 8000. November 4, hemorrhage of 3 oz. at 8:00 p. m. and 4 oz. at 9:00 p. m. November 5, hemorrhage of 9 oz. at 6:30 a. m. November 6, at 3:45 p. m. coagulation 2:20; calcium content 1-800; leucocytes 7600. In all these charts the figures in the vertical column represent minutes. The heavy line between 2 and 3 is normal.

fish or the injection of antitoxins, he was able to relieve the symptoms and hasten coagulation. By adding a weak solution (¼ to ½ of 1 per cent.) of $CaCl_2$ to the extravascular blood of hemophilics he was able to reduce the clotting time markedly. These same patients responded to the internal administration of calcium equally well.

Early in his work he recommended large doses of calcium and stated that the effect was soon lost because of the rapid elimination of the calcium by way of the kidneys. Later his experiments would seem to prove that the secondary effect of calcium in large doses is to lengthen coagulation time, and his conclusion was that the greatest acceleration of coagulation is obtained with small doses of calcium, though a large dose will show marked reduction of the coagulation time within one hour.

The hemorrhage of typhoid, he said, could be promptly controlled by the administration of large doses of calcium and prevented by small doses over a longer time. He claimed a greater difference in the coagulation time of the active stage and convalescent stage than any other observer thus far noted. Assuming that the calcium salts of the blood are essential to coagulation, Wright attempted to determine whether the increased coagulation caused by the ingestion of calcium was associated with a definite increase of calcium in the blood by estimating the calcium content of the blood in terms of ammonium oxalate before and after treatment. His experiments seemed to show the entrance of calcium into the blood. He thought calcium lactate more effective

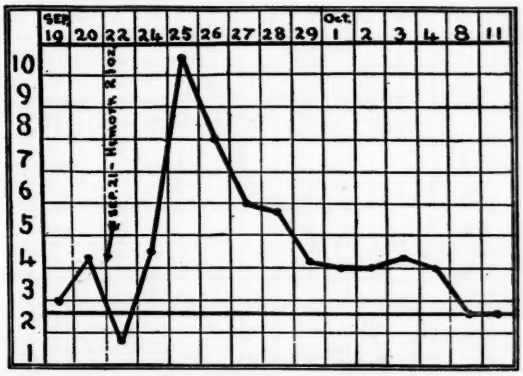

Fig. 2.—*Reaction to Hemorrhage.*—E. McC., female, aged 22; September 19, coagulation time 3:00; September 20, 4:10; September 21, hemorrhage 21 oz.; September 22, coagulation time 1:45; gelatin given; September 24, 4:20; September 25, 10:30; September 26, 8:00; September 27, 6:00; September 28, 5:45; September 29, 4:15; October 1, 4:00; October 3, 4:15; October 11, 2:30. From September 19 to September 23 calcium chlorid, 10 gr. every 3 hours, was given; from September 23 to September 25 calcium lactate, 10 gr. every 3 hours, was given day and night; from September 25 to September 29, calcium lactate, 20 gr. every three hours was given.

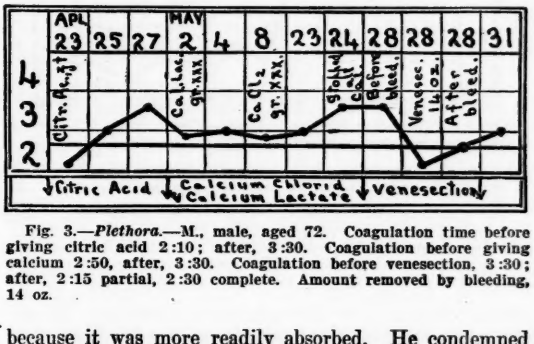

Fig. 3.—*Plethora.*—M., male, aged 72. Coagulation time before giving citric acid 2:10; after, 3:30. Coagulation before giving calcium 2:50, after, 3:30. Coagulation before venesection, 3:30; after, 2:15 partial, 2:30 complete. Amount removed by bleeding, 14 oz.

because it was more readily absorbed. He condemned the treatment of aneurism by the administration of potassium iodid and light diet because of the retarded coagulation associated with fasting.

In view of these rather remarkable statements made by Wright we have employed his technic in detail in determining the coagulation time and the calcium content of the blood with a view to confirming his observations. We regret that we have not been able to make observations on the blood of hemophilics. Our opportunities for observing typhoid have been, we think, exceptionally good. For determining the coagulation time

Wright's coagulometer was employed. An estimation of the calcium content of the blood was arrived at by mixing equal parts of blood and solutions of ammonium oxalate of graded strengths (1 to 500, 1 to 800, 1 to 1,000, 1 to 1,600, 1 to 2,000, 1 to 3,200). A definite quantity of blood, as 5 cm., was drawn up into a capillary tube, then an equal amount of ammonium oxalate (1 to 500) was drawn into the same tube—the blood and oxalate being separated by an air bubble. The contents of the tube were then blown out on a watch crystal and thoroughly mixed. This mixture was then drawn into the tube and, after noting the time, laid aside for an hour. In the same manner other tubes were then filled with blood and ammonium oxalate, 1 to 800, 1 to 1,000, etc.

At the expiration of the hour the contents of these tubes were blown out on white filter paper and that strength of ammonium oxalate which just prevents coagulation of the blood was used to express the calcium content of the blood in terms of ammonium oxalate.

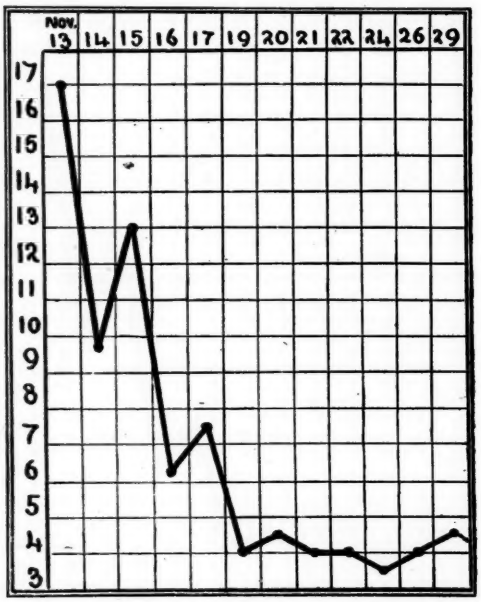

Fig. 4.—*Coagulation Time in Typhoid.*—Chart shows fall of coagulation time running with fall of temperature.

THE AUTHORS' OBSERVATIONS.

In addition to observing the coagulation time and calcium contents, we have noted the leucocyte count. Our conclusions are based on 386 observations made on 127 patients. In the Episcopal Hospital of Philadelphia 91 patients were selected from a large service and 302 observations noted. The majority of the 91 cases were typhoid patients, chosen from 150 cases of typhoid fever because of the stage of the disease or of some interesting symptom, as melena, epistaxis, etc. Eighty-four observations were made on 36 patients in the Samaritan Hospital, most of the patients being in the convalescent stage of typhoid fever.

While we can confirm the statements of both Vierordt and Wright that the blood during the active febrile stage of typhoid fever is slow to clot, we have not observed so marked a difference between the clotting time of the active and convalescent stages as was reported by Wright. Neither have we noted any decided inclination for the blood of the convalescent to go to the other extreme and coagulate more quickly than normal. We are, however, prepared to give the opinion that such condition exists where phlebitis and thrombosis develop.

The average coagulation time during the active febrile stage of typhoid fever as determined in 61 cases was found to be 3 minutes and 33 seconds. In 41 of these 61 cases a tendency was shown to slow clotting at all observations and none were as low as 2 minutes and 45 seconds during the active fever. The average time for coagulation in these 41 cases was 4 minutes and 6 seconds. Frequent observations of the clotting time will enable the physician to predict accurrately a hemorrhage.

EFFECT OF HEMORRHAGE ON COAGULATION TIME.

In this series of 61 cases we were able to make frequent observations on the effect of hemorrhage on the coagulation time. Figures 1 and 2 are charts typical of

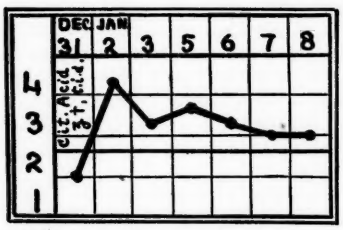

Fig. 5.—*Typhoid Fever Convalescent.*—M. H., aged 36, female. December 31, given three dram doses of citric acid.

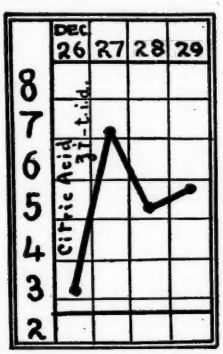

Fig. 6.—*Typhoid Fever.*—L. M., female, aged 16. November 26, the twenty-first day of disease, given 1 dram citric acid three times during the day.

numerous observations showing the marked effort on the part of Nature to stop the hemorrhage by quickly lowering the coagulation time.

Figure 1 shows a normal coagulation time of 2 minutes and 45 seconds on the fourteenth day of the typhoid, rapidly lengthening out to 8 minutes on the fifteenth day. Calcium produced no effect, but a hemorrhage of 15 ounces caused it to drop to 3 minutes and 10 seconds. At this point 1 dram of calcium lactate seems to have reduced it to 2 minutes and 55 seconds, but in our opinion this drop of 15 seconds was simply the continued effect of the hemorrhage.

In the second case (Fig. 2) a decided hemorrhage of 21 ounces quickened the clotting time to 1 minute and 45 seconds. Treatment could not keep it near normal, and we see it rapidly ascending to 10 minutes and 30 seconds and then coming down by lysis with the temperature until it is normal, when convalescence is reached.

TABLE A.

CALCIUM CHLORID ONE DRAM GIVEN AND COAGULATION TIME, CALCIUM CONTENT AND NUMBER OF WHITE BLOOD CORPUSCLES NOTED IMMEDIATELY BEFORE ADMINISTRATION AND ONE HOUR AFTER.

Case	Before Treatment.			After Treatment.		
	Coag.	Cal. Cont.	W. B. C.	Coag.	Cal. Cont.	W. B. C.
M. M., typhoid	4:45	1-2000	4600	3:35	1-800	5000
H. G., typhoid	2:30	1-800	7800	2:20	1-1000	8200
L. D., typhoid	2:50	1-1600	8400	2:40	1-1000	8000
M. M., rheumatism and swollen joints	5:30	1-1000	11000	4:20	1-750	11200
S. P., rheumatism and swollen joints	3:30	1-800	7500	4:00	1-500	7800

CALCIUM LACTATE EFFECT OBSERVED ONE HOUR AFTER ADMINISTRATION.

S. P., rheumatism and swollen joints	3:30	1-800	7600	4:00	1-500	7800
A. F., typhoid	8:00	1-1000	6200	8:05	1-500	7800

inability of calcium to reduce it and then the striking and prompt reduction in time due to the venesection.

It was also noted that the temperature and humidity of the atmosphere influenced the coagulation time noticeably and uniformly, a hot day with heavy atmosphere causing the coagulation time to shorten, while a cool day had the opposite effect. All typhoid patients who retained appetite were allowed to eat. They were given toast, soft boiled eggs, roasted potatoes, cereals, thickened broths, tea, coffee, cocoa, as they desired and milk sparingly, in most cases none at all. The patients, it was noted did not lose control over the clotting time of their blood. Many times it did not go above normal, and it was observed that these cases escaped such accidents as hemorrhage. The average coagulation time for convalescent typhoids, as observed in 23 cases, was 2 minutes and 35 seconds.

NORMAL COAGULATION TIME.

According to our findings the normal coagulation time is from 2 minutes and 30 seconds to 2 minutes and 45 seconds by the method which we employ. It will

TABLE B.

OBSERVATIONS ON CALCIUM LACTATE ADMINISTERED OVER PERIODS OF DAYS.

Before Treatment.				After Treatment.			
Case.	Coagulation.	Cal. Content.	W. B. C.	Dosage.	Coagulation.	Cal. Content.	W. B. C.
J. K., typhoid	6:15	1-500	.....	1 dram, 7 hours after	7:30	1-1000	.....
A. E., typhoid	2:15	....	.....	10 gr. every 3 hours for 12 days.	3:20	.....	.....
Mrs. P., abortion, sec. anem.	9:00	....	6600	1 dram 3 times daily for 2 days.	2:30	.....	14000
R. G., typhoid	2:55	....	.....	10 gr. every 3 hours for 27 days.	3:05	.....	.....
Mrs. E., typhoid ulcer	3:15	....	.....	1 dram 3 times daily for 3 days.	2:30	.....	.....
Mr. M., plethora	2:50	....	.....	30 grs. 3 times daily for 22 days.	3:30	.....	.....
J. H., typhoid	3:10	....	.....	10 or 20 grs. every 3 h. for 2 dys.	5:00	.....	.....
E. M., typhoid	4:30	....	.....	10 or 20 grs. every 3 h. for 4 dys.	6:00	.....	.....

TABLE C.

OBSERVATIONS ON CALCIUM CHLORID ADMINISTERED OVER PERIODS OF DAYS.

Before Treatment.				After Treatment.			
Case.	Coagulation.	Cal. Content.	W. B. C.	Dosage.	Coagulation.	Cal. Content.	W. B. C.
J. D., injured finger	4:00	....	10200	½ dr. twice daily for 4 days.	3:30	.....	.....
M. R., jaundice	3:00	....	.....	1 dr. twice daily for 1 day	2:30	.....	.....
Mrs. H., hemor. endometritis	1:05 at 18.5 C.	....	4000	1 dr. 3 times daily for 15 days.	1:10	.....	4200
M. M., typhoid	2:45	....	.....	1 dr. 3 times daily for 4 days.	2:40	.....	.....
M. F., typhoid	3:00	....	.....	1 dr. 3 times daily for 5 days.	2:45	.....	.....
Mrs. R., cystitis	2:45	....	.....	1 dr. 3 times daily for 5 days.	2:30	.....	.....
Mrs. Y., carcinoma, hemorrhage.	5:30	....	15000	30 gr. 3 times daily for 8 days.	3:00	.....	9600
Mc., epistaxis	5:00	....	.....	30 grs. 3 times daily for 5 days.	6:00	.....	.....
R., jaundice	8:00	1-800	7600	1 dr. 3 times daily for 3 days.	8:15	1-1000	8400
J. H., typhoid	5:00	....	.....	10 gr. every 3 hours for 2 days.	7:00	.....	.....

Following a typhoid hemorrhage, if the coagulation time dropped to normal and remained down, the patient was considered safe from another hemorrhage for the time, but if the coagulation time did not drop to normal or began to rise again soon after the reaction to hemorrhage the patient was considered in imminent danger of another hemorrhage. Hastened coagulation was thus noted following hemorrhage in typhoid on numerous occasions, following hemorrhage accompanying abortion, hemorrhage from carcinoma of the uterus and in some experiments, as shown in Figure 3. Mr. M., who suffered from vertigo due to a plethoric condition, gave a coagulation time of 3 minutes and 30 seconds. He was bled 14 ounces and the clotting time immediately dropped to 2 minutes and 15 seconds. This chart is especially instructive, as it portrays most graphically the ability of citric acid to lengthen coagulation time, the readily be noted then that the coagulative powers of the typhoid return to normal during convalescence. Figure 4 shows how closely the loss of clotting power follows the rise of temperature during the disease and that the return to health is accompanied by a return to normal temperature and normal clotting power. The case shown in Figure 4 ran a typical course and the patient was without drug treatment, with the exception of hydrochloric acid 10 minims three times a day. It has been demonstrated that the mineral acids do not influence coagulation.

In cases showing abnormally long clotting time calcium chlorid, calcium lactate, calcium acetate, calcium iodid, thyroid extract, gelatin, junket, milk and nuclein were used separately and together to shorten the time, all to no avail.

Calcium chlorid and calcium lactate were adminis-

tered in large doses (1 dram doses three times daily) and in small doses over longer periods of time, with like negative results.

Table A shows the observations noted where 1 dram doses of calcium were used and the coagulation time, calcium content and leucocyte count noted one hour later.

Hypodermic injections of calcium were not employed, but the administration of calcium by mouth does not seem to increase the calcium content of the blood.

Tables B and C also set forth the results obtained by administering calcium lactate and calcium chlorid over periods of days:

The average of a large number of observations noted in the coagulation time of the blood in various pathologic states were:

Specific meningitis	3.10
Coal gas poisoning	4.05
Gastric ulcer	4.10
Salpingitis	5.15
Alcoholic gastritis	3.10
Apoplexy	3.05
Carcinoma	4.35
Jaundice	6.30 to 8.30
Rheumatism	3.00 to 4.00
Pneumonia	2.47
Nephritis	2.25
Diabetes	2.55
Exophthalmic goiter	2.45

We were not a little surprised and were greatly disappointed at our uniform failure to influence the coagulation time of the blood in the direction of hastening it by means of the calcium salts or any other remedy employed. Our results with citric acid were more promising, as the charts in Figures 5 and 6 showed, and we feel that in all conditions where thrombosis threatens, citric acid should be employed. This holds especially in heart disease with broken compensation and for a brief period during the convalescence from typhoid and even in pneumonia.

CONCLUSIONS.

1. During the febrile stage of the infectious diseases coagulation is noticeably retarded.

2. The clinical employment of the calcium salts has no direct or invariable effect on the coagulation time of the blood, either in large doses one hour after its administration or in small or large doses at any subsequent period, even extending over two or more weeks.

3. In our hands the calcium content of the blood, as determined in terms of ammonium oxalate, proved unreliable.

4. We were unable to show definite relationship between leucocytosis and coagulation time.

5. Nucleic acid uniformly failed to produce an increase in the number of leucocytes and also failed to hasten coagulation. (Parke, Davis & Co.'s nucleic acid after the formula of Vaughn & McClintock was employed in 1 dram doses hypodermatically.)

6. We have shown conclusively the reaction of the coagulation time to hemorrhage.

7. Though not as striking as some of our other results, we have been able to show that citric acid prolongs the coagulation time, and it seemed, even when the difference in time before and after its use was not a very material one, that the viscosity of the blood was lessened.

DISCUSSION.

DR. C. B. LOWE, Germantown, Pa., thought that the investigations pointed to the fact that calcium salts and citric acid are of little value in coagulation of the blood. He considered Dr. Robertson's work with the cereals in typhoid of very great practical value, of quite as much value whether the blood coagulates on the administration of calcium salts or not.

DR. MYER SOLIS-COHEN, Philadelphia, has found that Wright's statements seem perfectly true until one investigates them. He tested the coagulability of the blood in fifty cases and was unable to corroborate any of Wright's statements in regard to the clotting time in diseased conditions. His experience coincides with that of Dr. Robertson, the average clotting time being two minutes, twenty-four seconds. In ordinary cases of typhoid the coagulability was unchanged, but when tested shortly after a hemorrhage the clotting time was considerably increased. Of course, there are many sources of error, due in large measure to the technic. It is believed there is a substance in the skin that increases the coagulability; it is known that pressure about the wound will increase the coagulability. A possible explanation of the increase in the coagulability following severe hemorrhage may be that the blood in the body must absorb fluid in order to get back its proper volume, and in so doing may draw fluid from the tissues. This fluid may have an influence in diminishing the clotting time, it having been shown by Wright and others that the admixture of fresh lymph and blister fluid decreases the coagulation time of the blood.

DR. O. M. HOYT, Philadelphia, made some experiments with Dr. Loeb, studying about 75 rabbits, and using different quantities of calcium chlorid, injected intravenously. Calcium chlorid in certain quantities seemed to decrease slightly the coagulation time, but not to any marked extent.

DR. HARRY A. DUNCAN, Philadelphia, emphasized that in these 127 cases they followed Wright's work so that, if possible, they might confirm it, and that in addition to getting the coagulation time, Wright endeavored to determine whether the calcium salts had been taken into the blood, and whether the coagulation time had been increased by the administration of the calcium salt. With that in view, Wright made up a series of solutions of ammonium oxalate 1 to 500 to 1 to 4,000. Equal amounts of blood and each of these solutions were thoroughly mixed and drawn into capillary tubes, where they were allowed to remain one hour. That solution just preventing coagulation, was taken as the calcium content of the blood in terms of ammonium oxalate. Wright, as a result of his investigations, said that the calcium content was increased, that there was a greater amount in the blood after the administration than before. Duncan and his associates were unable to confirm this observation. Further, Wright made the statement, confirming other writers, that a high leucocytosis would increase coagulation, and that the administration of nuclein, which was supposed to increase the leucocyte count of the blood, would correspondingly increase the coagulation time of the blood. Nuclein did not increase the coagulation time. In cases of high leucocytosis, as in pneumonia, Duncan could not determine that the coagulation time was hastened. Wright, in his first paper, said that large doses of calcium chlorid were necessary to produce a result. Duncan administered large doses and took coagulation time one hour afterward, as Wright did, in a series of cases, and could not notice any increase in the coagulation powers. Dr. Duncan administered calcium over long periods of time, in a series of cases, and was not able to notice any increase in the coagulation time. Wright's observations were based on a very small number of cases, and Dr. Duncan's cases were picked cases. He endeavored when he administered calcium to pick out a case that had a long coagulation time. He was not able to ascertain that calcium chlorid does increase the coagulation time.

DR. W. E. ROBERTSON, Philadelphia, pointed out that the chief value of work of this kind, if it is confirmed by others, is that it serves to warn us of a false sense of security in giving chlorid of calcium, feeling that we will get good results. Many surgeons spoken to since these experiments were made expressed surprise; they had placed implicit confidence in calcium salts and in gelatin. What Robertson and Duncan attempted to show is that citric acid and calcium salts have a diametrically opposite effect, the calcium to increase coagulation, the citric acid to decrease it. They found no effect from the calcium salts, but found very positive effect from citric acid. The citric acid seems to be of value where thrombosis

is threatened, and even where the instrument failed to show change in the coagulation time, yet they believe that the citric acid lowered the viscosity of the blood in one case. The patient had an epistaxis following the administration of citric acid. He had not had nose bleed for several years prior. The citric acid certainly seems to make the blood flow more freely. They were also unable to produce leucocytosis by the nucleic acid produced after the formula of McClintock and Vaughan.

DR. G. MORTON ILLMAN, Philadelphia, said that it is well to note that the majority of the observations were on typhoid fever cases, and that the authors thus had an opportunity to observe the action of calcium on the coagulation time at all stages of a prolonged infection in which a favorable action of the calcium could have been of great benefit in preventing hemorrhage by promptly shortening the coagulation time, as claimed by Wright. No favorable action of the calcium could be observed, however, at any stage of the disease. It is admitted on all sides that tissue juices increase the clotting time of the blood. Is this not an argument, then, in favor of feeding typhoid patients, especially those having a long coagulation time? In feeding the body we supply the tissue juices which are essential to quick coagulation, and quick coagulation stops hemorrhage. The authors were able to confirm some previous observations (as shown by the charts) and also to make a few original notes, especially the prompt reaction of the coagulation time to hemorrhage, the coagulation time occasionally bearing a relation to the temperature and, in fact, that a long coagulation time is not of necessity followed by hemorrhage.

MILK AND ITS RELATION TO HUMAN TUBERCULOSIS.

JAMES T. GORTON, M.D.
YONKERS, N. Y.

During the last decade the scientific world has awakened to the fact that pulmonary tuberculosis in the human being is curable; and to the fact, also, that the milk supply is uniformly bad all over the world. Side by side two great world-wide movements are rapidly gaining impetus; the one for the stamping out of human tuberculosis, the other for improving the common milk supply. When the relationship between the percentage of milk infected with tubercle bacilli and the death rate from tuberculosis is more firmly established I am convinced that one campaign will include both these movements.

When it is considered that the staple article of diet of all human beings under five years of age, or roughly speaking 10,000,000 children in the United States, is cow's milk, and that experimental tests point to the presence of tubercle bacilli in the milk from nearly all dairies in every state in the union, and show approximately one-third of the 29,000,000 milch cows of this country to be tuberculous, we should have no difficulty in seeing just where the milk problem and the anti-tuberculosis crusade merge.[1] All over the country we are building sanatoria for the treatment of incipient phthisis; and already the movement is under way to build sanatoria for incurable consumptives, so that in a few years the greatest human menace to the public health no longer will be free to scatter disease-laden sputum.

But how about the tuberculous cow? Is she to be allowed to infect the milk and thus our children? We have sufficient evidence to indict and convict the tuberculous dairy cow; we have sufficient knowledge of cattle breeding to rid our dairy herds of tuberculosis effectually, and to keep them tubercle-free.

With these ever-growing problems so prominent, no superficial treatment of these subjects will be satisfactory; all of their many phases must be considered.

IMPORTANCE OF PURE MILK.

The regular delivery of pure milk to the consumer means much more than even the average physician realizes. Milk is a natural culture medium, and it is bacteria, more than anything else, that we have learned to look for and object to as contaminating it. Dr. George W. Goler and the City of Rochester have proven that pure milk at a reasonable and moderate cost can be assured to the consumers of any community, if only its production, transportation, and vending be properly and honestly supervised.

In order to accomplish the desired results the department of health must be in deadly earnest; it must be intelligently and capably managed; and its powers must reach in an unbroken chain from the producer to the consumer. Armed with drastic ordinances for the protection of the community's milk consumers, with power to forbid the sale of substandard milk within the city, town, or village limits; with power to punish, and to punish adequately, each and every detected sale, or attempted sale, of milk that falls below the requirements, the board of health has the situation within its grasp. The argument frequently is advanced that no health board has any jurisdiction outside of its own geographical limits, but this loses its force as a plea for inadequate milk inspection when it becomes understood that any board of health can refuse a market for milk that it is not permitted to see produced.

PURE MILK AND PURE WATER.

The time is coming when the character of a city's milk supply will be the subject of just as careful investigation by the intelligent prospective homeseeker as is the status of that city's water supply to-day. We bathe in the water; use it for cleaning, for power, and for drinking. But we can boil it before we drink it. By proper filtration most of the bacteria can be removed from the water, thus rendering it safe for drinking.

We can filter milk, also, but this only removes the grosser particles of dirt which may be innocuous. We can boil it, too, and by so treating it render it harmless as a disease carrier, but harmful and dangerous alike to life and health for a young and delicate infant.

The duty of the municipality is to insure to its citizens pure, clean wholesome milk, unaltered by preservatives or heat. It sounds like an easy task, but the detail work necessary to insure a supply of milk of uniform quality and constantly low in bacteria is really appalling.

WHERE THE DANGER LIES.

I think I am correct in assuming that most medical men who are interested in the subject in a general way, believe the danger from tuberculous infection of milk to lie in cattle having pulmonary or udder tuberculosis. Until within a few months my own investigations led me to believe that unless a cow suffered from tuberculosis of the milk producing organs, or was permitted to infect the drawn milk by coughing into it bacilli-laden sputum from a diseased respiratory tract, she was not a menace to the milk. This belief is probably fostered by the frequently repeated statement that a cow may be far advanced with tuberculosis and still have no trace

1. The above facts and figures were gleaned from bulletins of the Bureau of Animal Industry of the United States Department of Agriculture.

of tubercle bacilli in her milk at any time provided her udder and teats be free from disease. It is now generally conceded that tubercle bacilli do not gain entrance to the milk in a healthy udder from the general circulation.

The following information, gleaned for the most part from a bulletin[2] of the United States Department of Agriculture, Bureau of Animal Industry, clears up this whole matter, and leaves very little room for doubt that a cow affected in any organ or to any degree is not only a positive danger in the milking stall, but a menace to the rest of the herd. Starting with the premises, first, that the tuberculin test is now universally accepted as a nearly infallible means of diagnosis, and second, that all tuberculous cows are dangerous the following experiments and findings are offered as proof: The dangerously tuberculous cow is described as an animal expelling tubercle bacilli from her body either with her milk, urine, feces or saliva, or in a vaginal discharge. Examinations of many specimens from diseased cattle made by the U. S. Experiment Station show that the commonest way is in the feces. Every case of bovine tuberculosis in which the animal was examined and found to be expelling bacilli in any way showed them in the feces.

INFECTED MANURE.

Almost any unfiltered specimen of milk procured under the ordinary conditions obtaining on the average dairy farm will be found to contain particles of cow manure. This manure may get into the milk pail by dropping off from an uncleaned belly or udder; it may be switched into the milk by a dirty tail; it may be carried into the pail or the milk by flies; or it may fall as dust into both milk and pail. All these causes of contamination, except the last named, can be eliminated by the painstaking dairyman, but the danger of dust infection of milk is almost beyond human control. Cow manure is dried, ground to powder or dust, and as dust circulates freely in the air of the cow stable, while with the excrement any contained tubercle bacilli are dried and float in the air, lodging in all parts of the stable, to be constantly stirred up by air currents and the movements of the cows and their attendants.

It is thus fair to assume that air borne bacilli from the intestinal canal of one cow may enter the lungs of another cow in the same barn and thus infect her, or may drop into the milk of the second cow and infect it. It seems reasonable, therefore, to conclude that the greatest danger from the tuberculous cow lies in the infectious character of the material that passes from her bowels. It is only fair to say, at this point, that this danger has been seriously considered for several years, and, to minimize this danger, there are now on the market and in use in a small way visor-topped milk pails with small partially protected openings as well as milking machines.

An investigation of the milk supply of the city of Washington, D. C., by the U. S. Public Health and Marine-Hospital Service showed fecal matter in 121 of 172 samples of milk taken at random. In other words, 70 per cent. of the milk of Washington contained cow manure. No figures are given as to the percentage of samples of Washington milk[3] found to contain tubercle bacilli, nor are there figures showing the number of cows supplying milk to that city and the percentage of tuberculosis among them. Still I think it is fair to say that the presence of cow manure in milk from a tuberculous dairy herd is sufficient evidence that the milk contains pathogenic bacteria—tubercle bacilli.

HOW THE INTESTINES BECOME INFECTED.

The source of the tubercle bacilli that appear in the feces of diseased cattle was not shown in the bulletin and on applying to Dr. Schroeder for information on this point he wrote me that in all cases that had gone to autopsy to date a tuberculosis of the lungs was found. "The tuberculous material is coughed up from the lungs and swallowed, and many of the germs in it pass through the stomach and intestines and out per rectum." Diseased cows passing enormous numbers of bacilli per rectum were shown in some instances to keep fat and look well for years. Many such animals rarely if ever cough and have no physical signs of disease. One series of federal tests made with infected milk from some of these apparently healthy cattle proved interesting by showing the extreme susceptibility of young calves.

PREVALENCE OF BOVINE TUBERCULOSIS.

The prevalence of tuberculosis among dairy herds has been variously estimated at anywhere from 10 per cent. to 90 per cent. of all our milch cows. One figure is obviously too low and the other quite as evidently too high. The most reliable figures obtainable indicate that about 33 per cent. of our dairy cows have the disease. The best evidence of the existence of a high percentage of tuberculosis among milch cows is the claim of some dairymen that a milk famine, national in its scope, would follow the condemnation and slaughter of all tuberculous dairy animals.

One German authority states that tubercle bacilli are present in 10 per cent of all the milk in that country. Experiments made by the New York City Health Department have shown 10 per cent. of the milk entering that city in cans to be so infected. Studies of the milk supply of Manchester, England, showed from 3 per cent. to 12 per cent. of its milk supply to be so contaminated at different times. We can see, therefore, that our statistics show nearly the same condition of milk the world over.

In a statement issued at Albany, Feb. 15, 1907, the Citizens' League of the State of New York declared that there is imperative need for state meat inspection and regulations to restrict the spread of bovine tuberculosis, and pointed out that until there is such an inspection the purity of the state's milk supply never can be assured. Such inspection, aside from its value in protecting the consumer from infected meat, would be of undoubted aid to the state department of health in a campaign for pure milk.

HOW TO CONTROL BOVINE TUBERCULOSIS.

When a human being shows manifestations of tuberculosis we can with delicate scientific tests, which daily are nearing perfection, settle the diagnosis and, should he prove to be diseased, set about so teaching him and caring for him as to prevent his being a source of danger to others during a long and slow convalescence. But we can not so teach or care for the dangerously tuberculous cow. We can, however, kill the animal and thus end its likelihood of spreading the disease; or it can be isolated from the healthy members of the herd and preserved, if valuable, for breeding purposes, and the milk specially treated before it is used. The time undoubtedly will come when an early recognition of

2. Schroeder, E. C.: The Unsuspected but Dangerously Tuberculous Cow.
3. From 7 to 8 per cent. contain living, virulent bacilli.

tuberculosis in a milch cow will permit of the animal being restored to perfect health.

The state cannot force a citizen to submit to examination for tuberculosis, but it can enact a law for the annual testing of all milch cows and the prompt isolation of all animals that react, and such a law can be enforced. The economic problem of ridding our dairies of diseased cattle is the one thing that stands in the way of radical and sweeping action by the state. The individual farmer cannot afford to stand the loss of even a small part of his herd, and the public is not yet ready to pay the cost of destroying all tuberculous cattle by general taxation. Nor is the public willing at this time to pay a price for milk which will permit the farmer to produce it in the most approved manner, and to so house and care for his dairy animals that tuberculosis will be eradicated.

RELATIONSHIP BETWEEN HUMAN AND BOVINE TUBERCULOSIS.

The whole significance of the presence of the tubercle bacillus in milk hinges on the question of the intertransmissibility of human and bovine tuberculosis. If Koch's announcement of July, 1901, is correct and there is no connection between this disease in man and in the milch cow, although the bacilli found in each are practically identical, then we need pay no attention to the tubercle bacillus in our milk.

While many authorities describe distinctive differences between bacilli that have developed in cattle and those found in human beings, they do not deny the ability of the germs from one to cause disease in the other. Koch's doubt as to the identity of the two arose from difficulty he experienced in transmitting human tuberculosis into cattle. von Behring and others answer with the accepted fact that certain germs will lose their virulence for some species of animals after passing through certain others, but yet prove still more virulent to a third species. It is far from a proven fact that the bovine bacillus loses its virulence by passing through man. In considering the results of the experiments on animals which I am going to quote the fact must be kept in mind that the adult animal is always far more resistant to the invasion of most infections than is the young of the same species.

A recent article[4] sheds a great deal of light on the present status of our knowledge of this whole subject. The author goes into detail concerning experiments conducted in 1905 by Schiveinitz, Dorset and Schroeder, on hogs, cattle and monkeys. Every animal used in the experiments was proven tubercle-free by the tuberculin test, and all animals were kept under the conditions necessary to make such work reliable from a scientific standpoint.

In the experiments on hogs the cultures used were taken from children and cows, and the conclusions reached were that tubercle bacilli of human origin possess as great pathogenic power for hogs as do bacilli of bovine origin. In the experiments on young calves cultures from both young and adult human beings were used and 33 per cent of the calves developed tuberculosis. In the experiments on monkeys with human and bovine cultures both were found to be highly infectious to monkeys.

In a series of laborious and painstaking experiments on guinea-pigs Dobroklonski found that it is entirely possible for the tubercle bacillus to pass through the normal intestinal mucosa of these animals. In discussing Dobroklonski's work Devine says:

> **He is not able to say just how the entrance is effected, but draws the following conclusions: Tuberculosis may certainly infect animals through the digestive tract. For the infection to take place no lesion of the intestinal wall is necessary; no epithelial desquamation; no local change of any character; no previous inflammatory process. The tuberculosis virus—the bacilli as well as the spores—can pass through the epithelial covering of the perfectly normal intestine. The tubercle bacilli, as well as their spores, if they are not long in contact with the intestinal wall, are not capable of provoking inflammatory processes or modifications of the epithelial lining of this wall. The tubercle bacilli probably have no definite way of gaining entrance into the organism—for example by leucocytes exclusively—but they may be carried by the lymph current and later, being arrested at some places in the tissues, they there give rise to the formation of the tubercles.**

In experimenting on cats Nocard proved that the young cat is especially liable to contract tuberculosis through the digestive tract.

In a series of experiments with sixteen young pigs that were fed milk from tuberculous cows only one developed a primary intestinal lesion. All the others had an infection of the mesenteric and also of the cervical glands. From this Tjaden infers that a great number of the cases of cervical tuberculous adenitis in children may be caused by tuberculous milk, and that infection through the food is not often indicated by tuberculosis of the intestines.

Cipollina in an experiment in feeding tuberculous milk to a tuberculin tested ape who succumbed to the infection, was able to prove that the ape is susceptible to bovine tuberculosis through the digestive tract, and that bovine tubercle bacilli may pass through the intestinal wall without any lesions at the point of entry.

From the findings of all these men it is safe to conclude that an easy route for tubercle bacilli to follow in forcing an entry into a healthy animal's organs is through the intestinal mucosa. It also appears that a great many animals are equally susceptible to the bacilli of bovine and human tuberculosis, and it appears, further, that young animals fall victims to tuberculosis through alimentary canal infection much more easily than do older animals. Knopf and von Behring have independently advanced the theory that it is probable that a high percentage of those who first show signs of tuberculosis during adolescence have contracted their infection during infancy or early childhood, and that the foci of disease have remained dormant during years of outdoor life only to awaken to activity at the time when maturity is approaching, and the demands on the vitality are on the increase.

A recent report from an investigating commission in England demonstrated that in the tuberculous adenitis of children 25 per cent. of the cases examined showed the presence of the bovine type of bacillus. At a recent meeting of the New York State Medical Society Dr. Wm. L. Stowell read a paper entitled "A Study of Children Fed on the Milk of Tuberculous Cows." In this paper he tells of the New York Infant Asylum inmates receiving all their milk from the institution's own herd, of which 90 per cent of the animals recently reacted to tuberculin and were slaughtered. Dr. Stowell states that the mortality of 10 per cent. (from tuberculosis) in this institution is the same as the mortality for the nation and yet these children had been fed on tuberculous milk. Only 6 of the 28 reacting cows in this herd

4. Devine, J. F.: Milk Production, N. Y. State Journal, November, 1907.

had pulmonary tuberculosis, and only two of these were bad cases, and repeated tests and search showed tubercle bacilli in this milk only occasionally, and never in large numbers. The statement, therefore, that children fed on tuberculous milk do not die in greater numbers from tuberculosis than those not so fed is not proven in this instance.

All physicians in active general practice encounter the various frank tuberculous conditions of children, such as glands in the neck, bone and joint lesions, and meningitis. In many cases there is no known local source of infection, so that suspicion has for many years been justly directed toward the milk supply.

Having fully before us the evidence that the young of most domestic animals are readily infected by tuberculosis contracted through the ingestion of germ-laden milk, is it not reasonable to argue and to believe that the human young are affected in the same way? When we realize that one-third of our milch cows are tuberculous; when we consider the most likely mode of milk contamination—through the feces; when we learn the percentage of milk actually proven to contain living tubercle bacilli—frequently as high as 10 per cent.—wherever such investigations have been instituted; and when we see by experiments the probable susceptibility of young and growing domestic animals, can we any longer neglect the need of such radical, concerted, and national action as will rid our dairy animals of tuberculosis and free our milk from all danger of tubercle infection?

METHODS OF MEETING THE PROBLEM.

If every milch cow were tested with tuberculin, with adequate legal backing the proper authorities would know at once how to proceed to eradicate completely tuberculosis from our dairy herds. A great step toward pure and safe milk would thus be inaugurated, and in five years there would need be no living tuberculous milch cows. A bulletin on "Bovine Tuberculosis in Wisconsin," issued by the Agricultural Experiment Station of the University of Wisconsin clearly points out the methods of procedure by which this most desirable end might be attained, as follows:

1. All milch cows should be tested by tuberculin annually.

2. When dairymen in general have determined whether their herds have the disease or not, they can easily prevent its further spread. In case of herds now free from the disease future safety is insured by testing all animals introduced into the same. In case of affected herds, separation of reacting animals and thorough disinfection of quarters occupied by the herd will stop further progress.

3. A most important question is what shall be done with the reacting animals? By far the larger majority of animals that respond to the test have the disease in a latent form, or at so early a stage of development that neither their milk nor meat is of necessity dangerous for use. Still, inasmuch as they react to the test they show the presence of the disease germ in their systems, and as there is no simple way in which it is possible to detect just when the product may become dangerous, it is wise, of course, to regard the milk of all reacting animals as unsuitable for use until it is first treated in some manner to render it safe.

4. The calves from reacting mothers can in almost ever instance be raised in a perfectly healthy condition by removing them from the cow at birth and feeding them on boiled or pasteurized milk, or that from non-reacting animals. It has been fully demonstrated that healthy herds can thus be raised from the originally diseased animals. This often furnishes the least expensive way of controlling the disease, and meets the objection of those who insist that immediate slaughter is unnecessary. Only such infected animals should be saved, for the time being, as show no well marked physical symptoms of the disease.

5. The veterinary laws should be so revised that under the auspices of the state the owner may have the option of retaining valuable animals under quarantine in order to permit him to raise from these affected animals healthy progeny. The state should give partial compensation for the destruction of affected animals as is done at present, but only where the infected quarters have been thoroughly and efficiently disinfected. The state should require that all cattle imported for breeding or dairy purposes should be subjected to the tuberculin test before shipment or as soon as they are brought into the state.

To the regulations suggested by the University of Wisconsin I think the following should be added: No human being afflicted with tuberculosis should be allowed to handle the cattle, milk them, or feed them. The presence of such persons should not be permitted in the stables or in the milk house. Care should also be taken that persons known to be so affected should not by careless spitting infect the cow yard or pastures.

THE INCREASED RETAIL PRICE OF MILK.

If these regulations were incorporated into laws that were enforced and faithfully lived up to no great hardship would be imposed on our milk producers, and in the end they would themselves be benefited. An ideal condition of health of our dairy animals could undoubtedly be brought about in the manner described, but the financing of this undertaking by the dairy owners could only be accomplished by putting up the retail price of milk. And in order to maintain this state of affairs the price of milk would have to stay up. It has been stated on very good authority that one-half of the farmers on the Atlantic seaboard now make up a yearly deficit on their dairies from profit made on some product other than those from their cows; and that if they kept books they would unquestionably discover this fact and sell off their cows. From 1900 to 1907 the cost of grain increased 31 per cent., labor has advanced 45 per cent. in cost, and it now costs about 100 per cent. more to the farmer for each quart of milk, and yet the general advance in the retail price of milk is only 1 cent a quart, or about 14 per cent.

The many details of a careful routine of clean handling of milk from the time it leaves the barn until it reaches the consumer need not be enumerated here. There have been many schemes proposed for the elimination of danger from contaminated milk, or milk coming from a questionable source. I do not believe in permitting milk to be sold at all which is known to be infected with tubercle bacilli. Nor can I honestly say that I believe commercial pasteurization of dirty or questionable milk is the proper method of safeguarding our children and ourselves.

The Milk Dispensary of St. John's Riverside Hospital has undoubtedly lowered the infant mortality of Yonkers year after year since 1894, during the four hot months, by establishing and maintaining stations for milk for infants, at which have been sold properly modified and pasteurized milk in original feeding bottles. For use among the poor, many of whom have no ice, and most of whom are ignorant of the menace of milk bacteria, pasteurized milk in summer is undoubtedly a safer food than the highest grade of unchanged pure milk. For the reasons just given it is safe to assume that there may always be a necessity for summer milk dispensaries of this character.

Until such time as ideal conditions can be brought

about in every department of milk production and vending every local board of health should require efficient pasteurization, a few hours before delivery to the consumer, of all milk which it finds unsafe for consumption as raw milk. All such milk must be put in sterile containers, and properly marked with the time and date of pasteurization and the degree and duration of temperature to which it was subjected.

In conclusion it is only fair to say that interest in the question of tubercle bacilli in milk has not in my mind minimized the gravity of the annual death rate from milk-induced gastroenteritis of children, or from milk-borne epidemics of scarlet fever, diphtheria, and typhoid. With these diseases we have an immediate evidence of the mischief done, but the entrance of tubercle bacilli into any of the glands, organs, or tissues may be unattended with any symptoms, or at least with any that are appreciable to the family or physician of the little victim. And it may be months or years later that the child so infected becomes crippled, or shows evidence of tubercular disease that may partially maim him, or end his life. It is the knowledge that practically one-seventh of us are carried off by tuberculosis, together with the uncertainty of just what percentage of the whole number so dying are infected during childhood through milk, that makes the freeing of our milk from tuberculosis so crying a necessity.

181 Park Avenue.

ACUTE GLANDERS.

REPORT OF A CASE, WITH A REVIEW OF RECENT LITERATURE, AND A COMPLETE BACTERIOLOGIC REPORT.*

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AND

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CLINICAL REPORT BY DR. MEYER.

Acute human glanders, though not uncommon in Russia, is an extremely rare disease in New York, but nine cases having been reported to the New York Board of Health during the past two years. Such a case, therefore, should be of sufficient interest to warrant publication; hence the following detailed report of a case admitted to the First Surgical Division of Mount Sinai Hospital (service of Dr. Gerster[1]), Aug. 28, 1907. Because of a suspicion that he might be a sufferer from glanders or some similar contagious disease the patient was transferred from the general to the isolation service.

A smear taken from the pus on admission showed bacilli resembling those of glanders (see below) and a tentative diagnosis of acute glanders was made. In view of the diagnosis, the New York Board of Health was notified, but the diagnostician who saw the case refused to consider it one of glanders, nor was this diagnosis ever officially admitted by the board, in spite of the suspicious character of the lesions and the conclusive bacteriologic findings. The horses in the stable over which the patient lived were thoroughly examined by them without finding any evidence of disease.[2]

History.—The patient, a Russian, 38 years old, a presser by occupation, four months in the United States, was semi-stuporous on admission, the history being obtained from friends. The most important part of the history, from the standpoint of diagnosis (viz., his residence over a stable), was not obtained until the death certificate was being signed, and then only after the most careful questioning. The history as obtained was, that the patient became suddenly ill a week before admission, with chilly sensations, general malaise, and high temperature; he soon became delirious. Two days later a painful tender swelling (not reddened) was noticed on the inner side of the left leg. The following day it was incised, but the wound showed no tendency to heal. The patient became rapidly worse, until on admission, August 28, his condition was one of extreme sepsis.

Examination.—The physical examination at this time showed: Small pustules on uvula and pillars of fauces. Joints tender and swollen. Glands, inguinal, very much enlarged. Lungs, a few râles over both chests, but no signs of consolidation. Skin: (a) Numerous small acne-form pustules surrounded by reddened areas; (b) larger pustules having flattened centers; (c) numerous shot-like swellings, freely movable under normal skin; (d) reddened indurated swellings with soft centers involving the muscles; the majority had red unbroken skin over them; on inner aspect of left leg was one that had been incised, showing a necrotic ulcer extending into muscle; there was a scanty discharge. Penis: Two large hemorrhagic bullæ on corona; left testicle enlarged and tender.

Two days before death, a dusky red area, with bluish center, appeared on the sole of the left foot (this was the first lesion on the soles of the feet). The day preceding death, the eruption became very profuse, involving every portion of the body, a great number of nodular swellings becoming soft and fluctuating (but not rupturing). A nasal discharge first appeared about this time.

A blood culture taken on the day of admission (August 28), showed *Bacillus mallei;* a culture taken two days later was also positive. Inoculation experiments gave typical results (see bacteriologic report).

Treatment.—The patient's condition on admission was such that it was apparent that no treatment would be of any avail. He was, however, put on the usual supportive and stimulating treatment; the pustular lesions were treated with Lugol's solution. An attempt was made to obtain some bullock's serum for injection, it being held that as cows are immune to glanders, their serum may contain something inimical to the growth of the *B. mallei.* Since a supply of the serum could not be obtained in time, this method of treatment could not be employed. Wherever possible, it should, however, be used, as it affords the best hope in this terrible malady.

In reviewing the literature,[3] one is struck by the failure of making even a tentative diagnosis of glanders in the early stage of the disease. The diagnoses most frequently made are pneumonia or pleurisy, acute articular rheumatism, or typhoid fever; among other early diagnoses made were cellulitis, erysipelas, influenza, impetigo contagiosum, and tertiary lues.

The main reason (aside from the comparative rarity of the disease) for failure to make a diagnosis, espe-

*Read in abstract at the meeting of the Harlem Medical Association, December, 1907.

1. To whom we are indebted for permission to publish this case.

2. It is worth noting that 530 horses were condemned and destroyed by the New York Board of Health during 1906, and 470 during the first nine months of 1907. During the same periods there were, respectively, six and three cases of human glanders.

3. The following literature may be referred to: Hoke: Prager med. Wchnschr., xxxii, p. 353. Presbyterian Hosp. Rep., 1904. Silkman: Med. Rec., Oct. 5, 1907. Boston City Hosp. Rep., 1905. Pcst, A.: Bost. Med. and Surg. Jour., Nov. 23, 1905. Beattie, D. W.: West. Med. Review, i, p. 46. Woodcock, L. A.: Lancet, Lond., Feb. 3, 1906. Anderson: Glasgow Med. Jour., 1905, lxiv, p. 281. Stephenson: Trans. Royal Academy, Dublin, xxiii, p. 313. Cheney: California State Jour. Med., 1905, iii, p. 220. Wherry: Glanders in Manila, Bureau Public Printing, 1904, Form 24. Spencer: Lancet, Lond., 1905, i, p. 997. Ames, J. L.: Boston Med. and Surg. Jour., 1905, cliii, p. 42. McFadyean, J.: Jour. Comp. Path. and Ther., 1904, p. 295. Robins, G. D.: Canada, 1906. THE JOURNAL A. M. A., 1889. Goodall: Lancet, Lond., 1905, ii, p. 589.

cially in the early stages, is due to the fact that the eruption does not usually appear until the disease has lasted some time. In the majority of the cases the diagnosis has been suspected only a few days before death, when a suggestive eruption appeared in the course of a disease not developing along the lines of the original diagnosis.

The case reported differed from the majority of the cases recorded in literature in that it did not markedly simulate any other disease; it resembled them in that the diagnosis could not possibly have been even suspected during the first three or four days, as the only symptoms present (according to the history) were those of sepsis. Just when the skin and joint lesions first became manifest could not be ascertained. They were not present the first two days, although they were well marked on admission, one week after the onset. While typhoid might have been suspected before the skin lesions made their appearance, the onset was not at all characteristic of this disease.

A further item of interest gleaned from a cursory review of the literature of the last three or four years is that of the number of cases reported in the United States. Out of a total of 32 cases of acute glanders reported, 18 were in the United States (4 of these in New York City,[4]) 13 in Europe and 1 in Manila. Of course, many cases are not reported in the literature.

In a typical case, with a good history, the diagnosis should not be difficult, provided one has the disease in mind. Acute glanders in man, however, is seen so seldom that it is usually not even thought of, especially when there is little in the way of skin lesions. A bad coryza, which may be the most marked local sign of glanders, is, of course, often present in grip or pneumonia. Many of the cases recorded in the literature, in which mistaken diagnoses were made, showed neither coryza nor skin lesions at the onset, this being often characterized by chill, followed by typical symptoms of pneumonia or grip or by joint symptoms simulating rheumatism. Only after a variable time had elapsed did there appear nasal symptoms or a skin eruption which suggested the possibility of glanders in any case. When, however, with a more or less septic condition, there appear on the skin indurated painful reddened areas with soft centers, with less tendency to rupture than ordinary abscesses, and which, when opened, discharge a thin serosanguinous material, the resulting ulcer having a necrotic base, usually involving muscle, and with no tendency to heal, glanders should be thought of, and all the means at our disposal should be made use of in aiding us to reach a correct diagnosis.

The injection of mallein, which is employed in diagnosing incipient or latent glanders in horses, is of no service in an attack of suspected acute glanders in man, as a positive diagnosis depends mainly on a rise of temperature (in addition to a local reaction), and this is already present. We have heretofore depended on finding the *B. mallei* in the cultures, and in the typical results obtained by inoculation. These means will, in practically all cases, enable us to reach a diagnosis, but they are time consuming, requiring from one to three days to furnish results.

Recently a new method[5] of arriving at a diagnosis has been devised, one based on the phenomenon of agglutination and precipitation, and, therefore, similar to the Widal test in typhoid.[6] This method, according to the report, is used officially in the diagnosis of glanders in horses, in Austria and Prussia, and is considered fairly accurate.

It may not be out of place here to quote from Councilman's[7] article on the diagnosis of glanders: "Taken in its entirety, the clinical history of the disease is almost characteristic, but at a given period, and, indeed, for a long time, it may be impossible to make the diagnosis." Quoting further: "The skin lesions which are so prominent in the horse appear in man only in the later stages of the disease, and abscesses in the muscles (which are very rare in the horse) are common in man and often constitute the first evidence of the disease. The acute disease begins in man with chills and high fever, which sometimes takes a typhoid form. There is often intense pain in the joints and muscles, with general weakness and malaise. This condition is followed by the development in the muscles or subcutaneous tissue of hard swellings, which rupture and discharge a thick mucoid pus mixed with streaks of blood. In some cases there is a diffuse erysipelatous inflammation of the skin, preceding the formation of pustules; or large ulcers may be formed by necrosis of the skin. Nasal discharge is not so marked as in the horse, but examination rarely fails to show nodules and ulcers; muscle abscesses are usually present. The pustules are most common toward the termination of the disease, and often appear only just before death. The acute form is almost invariably fatal, usually between the sixth and thirtieth days of the disease."

With the exception of one case of laboratory glanders, all cases we have found reported in the literature were fatal. The only treatment employed in this case (in which there was a six-day incubation period with symptoms resembling typhoid) was the ordinary surgical treatment of an abscess. The patient was ill about three months, with several relapses of three to four days' duration.

BACTERIOLOGIC FINDINGS BY DR. CROHN.

The bacteriologic findings in this case are noteworthy, particularly on account of the demonstration of the value of blood cultures in the early diagnosis of these conditions. The results obtained were as follows:

As was previously mentioned, the patient was admitted with a diagnosis of a general staphylococcemia, but did not answer, in many respects, to the typical picture corresponding to a bacteriemia of this type. At this point, the diagnosis of a general infection with the glanders bacilli was suggested, and steps were immediately taken to confirm the clinical diagnosis by laboratory means. This consisted first of smears and cultures from the pustules; second, emulsions of pustular contents for animal inoculation; third, blood cultures. The first blood culture was taken three hours after admission, and 15 c.c. of blood were withdrawn from the median cephalic vein. At the end of 48 hours, all the media showed a culture of glanders bacilli.

The smears which were taken from a number of the pustules over the body, presented the following: Gram stains of the smears showed rather indefinitely staining Gram-negative organisms. On utilizing, however, dilute carbol fuchsin or methylene blue there were seen long, slender bacilli, colored rather faintly, and having an unevenly tinted cell body, with numerous darker staining areas. The general configuration of these bacilli was suggestive of the *B. mallei*.

At the end of forty-eight hours, the cultures from the pustules showed a slight, grayish, confluent growth along the line of inoculation on all the media. Emulsions were made of some of the contents of the pustules, and four male guinea-pigs were inoculated intraperitoneally with small doses of the mixture. On the same day that the cultures from the skin lesions showed growth, the guinea-pigs which had been inoculated with material from the pustules began to react. The animals appeared sick, showed increased temperature, refused food, and evinced considerable tenderness on handling the lower part of the body. The scrotum showed considerable swelling, was distended, reddened and hot. The testicles were enlarged and painful. (This last effect of the intraperitoneal injection of glanders bacilli into male guinea-pigs is called the "Straus reaction," and is regarded as pathognomonic for this organism.) Within the next three days all of the animals had died with the picture of a general infection.

4. The New York City Board of Health reported six cases in 1906.

5. Jour. Infec. Dis., May, 1907.

6. Parke Davis & Co. furnish an agglutination outfit for this test, with full directions.

7. Wood's Handbook.

At autopsy the animals showed multiple foci, consisting of small localized caseous areas in the parenchymatous tissue of many of the organs (spleen, liver, lungs). The tunica vaginalis of the scrotum was enormously distended, and contained purulent, greenish-yellow pus. Each testicle was enlarged from the normal size, that of a pea, to that of a rather large flat grape (1.2 to 2 cm. in diameter) and consisted of a diffuse, caseous, broken down mass of semi-necrotic material. The inguinal lymphnodes were enlarged. Microscopic sections showed the *B. mallei* in all the organs examined.

On the third day after admission, another blood culture was taken. This culture at the end of forty-eight hours, showed a positive growth of the glanders bacillus, similar to the first blood culture. The results of these two cultures may be summarized as follows: The first culture was taken on the day of admission while the patient's temperature was 103 F. The earliest colonies were seen on the plates containing serum. The average number of colonies in the first blood culture was 0.9 bacilli per c.c. of blood. The second blood culture, taken two days later, while the patient's temperature was about 102 degrees, averaged 11 bacilli to the c.c., showing a rapid increase in the severity of the infection as the powers of resistance of the individual diminished. The guinea-pigs, inoculated with cultures of the bacilli recovered from the blood, reacted similarly to those inoculated with material from the pustules, that is, showed the characteristics of a Straus reaction.

The clinical diagnosis of this case was thus corroborated in the laboratory by: First, smears from the pustules showing morphologically characteristic bacilli; second, cultures from the pustules giving characteristic growth on media; third, two positive blood cultures; fourth, inoculation of organisms recovered, into guinea-pigs, with typical Straus reaction and death. (Unfortunately, the family refused permission for autopsy on the deceased).

The interest in this case lies particularly in the fact that we were able to confirm the clinical diagnosis by two positive blood cultures. This is important since it should be remembered that the organisms are difficult to demonstrate and isolate from the pustules of the skin. Gram stain alone may be unsuccessful, dilute carbol-fuchsin or Loeffler's methylene blue are more satisfactory. A search through the literature reveals the fact that in many of the undoubted cases of acute and chronic glanders, considerable difficulty was found in staining and recognizing the organisms in the skin pustules. In such a case, and where animal inoculation is impossible or unsatisfactory, a blood culture will, in a very large proportion of cases, make the diagnosis.

In our case the blood cultures were taken early in the course of the disease (first day of observation); positive growth was seen within forty-eight hours after the culture was taken, and the organism was identified with facility on the media and later by animal inoculation. The value of a positive culture early in the course is readily apparent from the fact that many cases of acute glanders simulate clinically the picture of typhoid fever and are often differentiated from it with difficulty. Not only in differentiating from typhoid fever, but also, when the case is seen early, from pneumonia, from acute articular rheumatism, from staphylomycosis, etc., the blood culture is a desideratum and presents a rapid and practical diagnostic value. In acute glanders, in about 50 per cent. of the cases, positive blood cultures, where attempted, were obtained early in the disease. Pappenheimer,[8] Coleman and Ewing, Lewis and Duval, and Pilcher[9] have recently reported success in similar cases.

THE OCCURRENCE OF GLANDERS IN MAN.*

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CLINICAL REPORT BY DR. BEVAN.

During October, 1907, I was called to Milwaukee to see three cases which had puzzled the attending physicians and which presented interesting and difficult problems. There were three brothers, farmers, who lived near each other in central Wisconsin, and the son of one of the men involved in the case. One of the brothers, a man of about 35 or 40 years of age, had traded for a horse, which had been brought down from the northern part of the state. This horse had at the time, or soon after his purchase, developed a swelling under the jaw. The new owner lanced this swelling, and soon after he developed an infected hand. The hand infection was followed by general systemic infection, multiple abscesses and death within a few weeks.

The other horses on the farm were taken ill, and some horses were borrowed from a brother, who lived six miles away on another farm. The borrowed horses also developed the same illness and were then returned to their owner. The owner, the second brother, was shortly afterward taken ill with an acute illness resembling somewhat acute articular rheumatism. In the meantime a son of the man who had died was seized with similar symptoms, and another brother, who had had some trouble with a knee-joint for some time, suddenly, after a slight injury, developed an enormous, acute, painful swelling of the knee, with temperature, but without any severe, general symptoms.

By this time the families of the patients were in a panic; no one seemed to know what ailed them, and the three individuals were sent to St. Joseph's Hospital, in Milwaukee, and I was called as I had had some experience with lumpy jaw and blastomycosis, and these lesions were considered as possible causes of the small epidemic. I took with me one of the house staff at the Presbyterian Hospital, Dr. W. W. Hamburger, who had done some creditable laboratory work in both actinomycosis and blastomycosis.

On examination I found the following facts:

CASE 1.—*History.*—A man, aged about 40, had had trouble with his knee before the other cases occurred, but who rather suddenly developed an enormous swelling after a trifling injury about the time the other patients were taken ill.

Examination showed a man in fair health, somewhat anemic and below normal weight, with a great swelling of one knee looking somewhat like an enormous Charcot joint. There was no syphilitic history or ear marks of syphilis, only the history of slight swelling and then after slight injury the sensation of something giving way, and the great pain and swelling pointed clearly to a pathologic fracture, due, probably, to sarcoma. Later, the limb was amputated and sarcoma was found. This case was shown to be entirely independent of the other cases and simply a coincidence. It was, however, for a short time, somewhat confusing, as the belief was general that it was due to the same disease from which the others suffered.

CASE 2.—*History.*—This man was a few years younger than his brother, in Case 1. A short time after the return of his horses from his brother's farm, they were taken ill. Shortly after, he himself was taken ill, without any apparent cause. He had no scratch or visible point of infection. He was seized with a high fever, which varied from 100 to 104 F., and which still continued when I saw him about four weeks after the onset. He had a slight cough and a very offensive breath. He had had severe pains and swelling about his joints, especially his wrists. These swellings seemed to be about rather than in the joint proper. He was conscious and had had no delirium. He had developed a number of subcutaneous and muscular abscesses; these had been opened and packed with iodoform gauze. One of the abscesses near the right sternoclavicular articulation had, after being incised, left an ulcer covered with gray, unhealthy granulation which showed little tendency to heal. The man was weak, had lost weight, and presented a fairly typical picture of pyemia.

CASE 3.—*History.*—This boy, aged 14, was the son of the man who had lanced the lump under the horse's jaw, and who had died in a few weeks. He had been ill several weeks, had the same high, irregular, pyemic temperature as the patient in Case 2, varying from 100 to 104 F. He had no visible point of infection. He had had pains and swellings about his joints, and a single abscess in the triceps muscle of the left arm. The attending physician had that morning incised the abscess and found several ounces of pus, some of which he had saved for us.

We made smears of the pus from Case 2 from the ulcer near the right sternoclavicular articulation and found it negative. We made smears from the pus from the abscess in the boy's arm and found a few bacilli, consistent with being the bacilli of glanders, and what was suggestive was that there were no other microorganisms.

8. Pappenheimer: Proc. N. Y. Path. Soc., p. 173.
9. Pilcher: Am. Surg., 1907, xlv, p. 444.

* Read before the Chicago Medical Society Jan. 8, 1908.
*From the laboratory for clinical research of the Presbyterian Hospital.

Analyzing all the facts in the case, I ventured the clinical diagnosis of glanders and advised rigid quarantine and great care on the part of the attendants in order to prevent the spread of the disease. We made a number of cultures and secured a quantity of pus from the abscess opened the morning of our visit. Dr. Hamburger will report on these examinations (*vide infra*).

During the last few years I have had in my service at the Presbyterian Hospital, or I have seen in consultation and have, for the most part, had the cases worked up in my laboratory, about thirty cases of the supposedly rare forms of infection—actinomycosis, blastomycosis and glanders. There have been more than twenty cases of actinomycosis, six or seven cases of blastomycosis and three cases of glanders. I feel confident that the great majority of these cases would have been overlooked if we had not been constantly on the lookout for them and made routine examinations of pus and tissue. I think that if my statements are true, we must necessarily conclude that these infections are much more common than is generally supposed and that they are very frequently overlooked.

What does it mean when a small group of men like Dr. J. N. Hyde and his associates, Drs. Montgomery and Ormsby, within a few years recognize 60 or 70 cases of blastomycosis, with ten or more cases of general infection? It means that they have learned to recognize these cases, which a few years before were diagnosed and treated as something else—tuberculosis, pyemia, etc.

I had never before recognized a case of glanders, but now, in thinking over some of the obscure infections which I have seen, I feel positive that I handled at least two other cases without recognizing the condition—one in a cowboy, which simulated smallpox, and another in a Jewish boy from the Ghetto, with the picture of pyemia. Each of these patients died without a definite diagnosis being made.

The lesson to be learned from these cases is: Conduct your own clinical laboratory and make routine examinations of pus and tissue, and these supposedly rare infections will be shown to be more common than we have believed, and, what is more important in actinomycosis and blastomycosis, the recognition will mean proper treatment and usually cure, and in glanders the recognition will mean proper quarantine and safeguards against the infection of others. Six or eight laboratory workers have died from infections acquired while working with glanders.

The limited epidemic, which I thus briefly report, was of mild type; almost all the horses recovered, and only one of the three patients succumbed. The other two were, from recent reports, improving and seemingly well on the road to recovery.

BACTERIOLOGIC REPORT BY DR. HAMBURGER.

The diagnosis of glanders may be divided into the clinical and the biologic. As the clinical facts are the ones which the physician must first collect and analyze, I shall briefly speak of them as a preliminary to the laboratory findings.

Councilman[1] defines glanders as "an infectious disease caused by the *B. mallei* and characterized by foci of inflammation, often assuming a nodular form, in the skin, subcutaneous tissue, muscles and lungs. The disease is most common in the horse; the cases in man arise by infection from the horse or some member of the equidæ." To this must be added the cases of infection in laboratory workers, of which I will say more later.

The disease was first described under the name "malleus" in the fourth century (Hecker[2]). Schilling published the first reliable observation of the disease in man in 1821, and this was followed, in 1837, by Rayer's[3] monograph on the human form of the disease. In 1840 the contagiousness of the disease, which had always been so considered by the early writers, was definitely established by animal inoculation.

Glanders in man appears in both the acute and chronic form, similar to the disease in horses. The acute disease begins usually with an abrupt chill and fever, although a slow typhoidal onset has been observed. There is often intense pain in joints and muscles, with general malaise and weakness. Pilcher,[4] in a report of two cases in New York, in 1907, speaks of the significance of the extreme degree of prostration, out of proportion to the physical signs; also of the early signs of muscle pain from deep abscesses, and the early involvement of various larger joints.

This condition of onset is followed by the development in the muscles and subcutaneous tissues of hard swellings, which rupture and discharge a thick mucoid pus, streaked with blood, forming multiple, variously sized pustules and ulcers, the latter being slow and chronic in their course, showing no tendency to heal and being surrounded by the classical bluish-red areola. The acute form is almost invariably fatal, death occurring usually from the sixth to the thirteenth day of the disease.

The chronic form is not nearly so characteristic, and, therefore, more difficult to diagnose. There is usually an infection from a local lesion of the extremities, followed by a lymphangitis extending to the neighboring lymph nodes. Later, various subcutaneous and muscular abscesses appear. In nearly all of the chronic cases reported, the disease passes into the acute form shortly before death. Sims Woodhead[5] places the mortality of the disease at 40 per cent; Butler[6] at 50 per cent.

The occupation of the patient is of the utmost importance in arriving at a clinical diagnosis. Coachmen, soldiers, veterinarians, hostlers, farmers and more recently laboratory workers are those liable to the disease and in whom it is most frequently encountered.

The disease must be differentiated from typhoid, pyemia, rheumatism, erysipelas, variola, syphilis, tuberculosis and anthrax (Edwards[7]), and to establish this positively we must call in the assistance of the laboratory worker. The eruptive stage may resemble smallpox, but the glanders pustules appear in successive crops and ulcerate rapidly; they are not umbilicated and not as uniform as variolous pustules. The chronic type may offer special difficulties. Certain types of syphilis closely resemble chronic glanders. Even the destructive changes about the nose are simulated. The differentiation may rest on the effect of specific treatment. In tuberculosis the lungs are generally the chief seat of the disease; the nose and skin usually escaping (Ravenel[8]). A number of biologic methods may be employed to definitely fix the etiology of any suspected case. I shall first describe the technic used in this instance and then

1. Glanders, Ref. Handb. Med. Sciences, 1902.
2. Geschichte der Heilkunde, Berlin, 1829.
3. De la Morve et la Farcine chez l'homme, Paris, 1837.
4. Glanders in the Human Subject, Ann. Surg., July, 1907, p. 444.
5. Allbutt's System of Medicine, 1897, ii, p. 513.
6. Diagnostics of Internal Medicine, 1905, p. 745.
7. Text-Book on Medicine, 1907.
8. Glanders, Osler's Modern Medicine, iii, p. 42.

briefly review the various methods suggested by Wherry,[9] Councilman, Ravenel, Moore and Taylor,[10] and others.

METHOD OF DIAGNOSIS.

The bacteriologic procedures by which these cases were diagnosed as glanders were carried out as follows:

An aspirating syringe, lying in a sterile basin containing 30 c.c. of pus, was examined. It was found to contain a translucent, opalescent, mucoid pus of extreme viscosity. This material had been withdrawn from the elbow abscess of the boy six hours before. Smears were made and stained with Loeffler's alkaline methylene blue, in the usual manner. The microscope showed many polynuclear pus cells, embedded in a thick meshwork of fibrin. After tedious searching, a single extracellular bacillus was discovered. After another fifteen minutes' search a second, free-lying organism of similar morphology was found. These bacilli appeared as slender, straight rods, larger than *B. coli* and somewhat thicker than *B. tuberculosis;* with rounded ends; some irregularity of protoplasmic staining. There was no evidence of cocci or other bacilli.

Some of the pus was placed in a 10 per cent. potassium hydrate solution, and a cover slip dropped on, and a search for blastomycetes instituted, with negative results.

With the platinum loop several abscesses were scraped and smears made and stained, with no bacteria being revealed. These abscesses had been opened earlier, at various periods during the course of the disease, curetted, packed with iodoform gauze, etc.

Cultures from pus and abscesses were made into bouillon, slant glycerin agar, and blood serum, and the remainder of the pus was placed in a bouillon tube. Four hours later, during which time the cultures were exposed to extremes of heat and cold in their journey from Milwaukee to Chicago, these tubes were placed in the incubator and allowed to remain over night.

Sixteen hours after the inoculation, the bouillon and glycerin agar tubes showed evidence of beginning growth, but of too slight extent to be identified. The bouillon containing pus was inoculated into a male and female guinea-pig and a rabbit.

With a few exceptions, all of the tubes showed evidence of growth after forty-eight hours, particularly the agar slant cultures. Some of the cultures, particularly those inoculated from old abscesses, showed a mixed staphylococcus growth. The cultures in forty-eight hours showed a short slender bacillus, sometimes occurring in pairs, with barred-stained protoplasm, and marked polar staining; gram negative; in short, approaching very closely the morphologic characteristics of *B. mallei.*

The male pig was inoculated intraperitoneally after the method of Strauss. Within forty hours enlargement and tenderness of the testicles became manifest. This progressed until on the fifth day the scrotum was swollen to eight or ten times its normal size. The pig was killed on the seventh day with chloroform. Autopsy revealed a small, round, circumscribed area of induration in the skin and peritoneum around the injection point. The testicles were swollen and indurated, the right one more so than the left (Fig. 7). They were with difficulty separated from the scrotal tissues because of adhesions. A glass pipette plunged into the right testicle revealed abundant, yellow-white, mucoid pus, which was smeared and stained after tube inoculations had been made. The smears showed barred-stained, gram-negative bacilli (Fig. 4.) The tube cultures, after twenty-four hours, revealed the same organism as that isolated from the original pus. No other lesions were found in peritoneum, spleen, liver, or other organs. Cultures from heart's blood were sterile.

The female pig was inoculated subcutaneously. Four days later, a small subcutaneous nodule was noted at the injection point. This became steadily larger, till on the twelfth day it broke through the skin, forming an irregular, unhealthy-looking, necrotic ulcer the size of a five-cent piece. This was excised at autopsy two days later. The rabbit showed no pathologic changes.

A summary of the growth of the organism on the various nutrient media is as follows: *Agar.*—Moist, whitish, translucent streak appears within twenty-four hours. This gradually extends to cover the entire surface within four to five days, closely resembling the growth of *B. coli. Bouillon.*—Supernatant liquid, clear. On shaking, a stringy white precipitate rises in a vortex-like column which quickly settles down. This heavy, coherent growth in bouillon is very characteristic. *Milk.*—No changes in four days. Then faint acidity occurs, which steadily increases until coagulation occurs on the eighth day with expression of clear straw-colored liquid. *Potato.*—Growth practically diagnostic. Faint, yellow, semi-translucent, honey-like growth in twenty-four hours. This darkens daily, until on the fourth or fifth day, it has assumed the characteristic yellow brown to chocolate color. Growth extremely tenacious and viscous; growth increases to entirely cover slant surface of potato. A note from the department of bacteriology, University of Chicago, to which a subculture of the organism was sent, confirmed the above findings.

Microscopically the organism varied greatly, according to the age of the culture, media, etc. Young organisms appear as short, rather thick rods, with rounded ends, frequently occurring in pairs, with irregular barred-staining protoplasm (Fig. 2). Older cultures in which the media had become dry, assumed elongated, thread-like proportions—involution forms (Fig. 3). Still other cultures assumed a coccus-like structure, making one think, at first glance, of a staphylococcus contamination (Fig. 1). The bacilli stain faintly with methylene blue. I found carbolthionin and carbol-fuchsin the most satisfactory for routine staining.

A number of other things were attempted, such as the histology of the glandered testicle and cutaneous ulcer, the staining of bacteria in tissue, the causes of variation of morphology, in confirmation of the work of Wherry, Duval and White,[11] and Frothingham.[12]

These purely technical things are not within the province of this paper and will, therefore, not be discussed.

A few phagocytosis experiments were made, and these have not been attempted before, so far as I know. A 24-hour agar growth was suspended in salt solution and a part of it put with washed white corpuscles and the mixture allowed to incubate for fifteen minutes in the usual manner. To a second portion was added an equal amount of serum taken from a pool of normal blood. Smears made showed abundant bacteria in the field, all extracellular in the first case, and many intracellular in the second where the opsonin-containing serum had been added (Figs. 5 and 6). This places *B. mallei* in the line with all other opsonophilic bacteria and suggests the advisability of determining malleo-opsonic indices in chronic cases, with the injection of mallein during the negative phase, etc. It would seem, at first glance, that chronic glanders in man, covering a period of from six months to three years, might be hastened to recovery by the cautious administration of the requisite dose.

The diagnostic methods, classed as biologic, usually employed in determining glanders may be divided into (1) animal inoculation, (2) injection of mallein, (3) the agglutination method.

(1) *Animal Inoculation.*—In 1886 Strauss[13] first demonstrated that when material containing *B. mallei* is injected intraperitoneally into the male guinea-pig the animal develops, on the second or third day, an orchitis, with formation of nodules in the testes and scrotal

9. Glanders: Its Diagnosis and Prevention, Bull. 24, Bureau of Government Laboratories Biological Lab., Manila, 1904.
10. The Agglutination Method of Diagnosis in the Control of Glanders, Jour. Infect. Dis., Suppl. No. 3, 1907, p. 84.
11. Histological Lesions of Experimental Glanders, Jour Exp. Med., October, 1907, p. 352.
12. Diagnosis of Glanders by the Strauss Method, Jour. Med. Research, June, 1901, p. 331.
13. Compt. rend. Acad. d. Sc., 108, p. 530, Rev. Veter, Jour., 1889.

peritoneum. After the development of a definite orchitis the animal is chloroformed and the testicle examined grossly and microscopically, smears and cultures being made, if pus is present. Frothingham, in a review of 123 cases in horses and 2 in man, concludes as follows in regard to the test: "I believe that this method of diagnosis is the most valuable one at our command. A positive test means everything, a negative nothing, though several negative tests are of great importance. The method might be more valuable could we inoculate animals by nature more susceptible to glanders—certain field mice, for instance. Under present conditions and being obliged to use the guinea-pig, I feel that the best results will be obtained if three or four pigs are used for each test, each pig to receive an injection of ½ to 1 c.c. of the suspension, a small proportion of which should remain in the subcutaneous tissue and all the rest to be introduced into the peritoneal cavity."

(2) *Injection of Mallein.*—Mallein was first prepared in 1888 by Helmen, a Russian veterinarian. Its diagnostic value was first demonstrated by Kalming, of Dorpat, in 1891. Mallein is prepared after the manner of tuberculin by growing a freshly isolated culture of *B. mallei* in glycerin bouillon for from four to six weeks. The culture is then sterilized in the autoclave on three successive days and filtered through a Pasteur filter. Before use it is diluted with a 1 per cent. solution of carbolic acid. This solution is then injected into the suspected animal (in the horse usually in the subcutaneous tissue of the neck), resulting (when the test is positive) in a specific and definite local and general reaction. (As this test is practically never used in man, I shall not go into detail regarding this reaction. Those interested should consult V. A. Moore's text on the "Pathology and Differential Diagnosis of Infectious Diseases of Animals.") Although mallein is not used for the diagnosis of human cases, because of the ease by which diagnosis may be reached through other means, there is no reason why it should not be used in chronic or suspected cases where the diagnosis is obscure.

(3) *Agglutination Method.*—This method of diagnosis was first applied to glanders by M. Fadyean[14] in 1896. The method was modified to some degree by Schütz and Miessner,[15] and is thus used in the diagnosis of glanders generally in Prussia. Schnürer,[16] in Austria, uses this method for the diagnosis of glanders in suspected cases for the Austrian army. McKee, of the Memorial Institute, speaks of it as being the most accurate method in controlling horses used for the preparation of diphtheria antitoxin. The reaction is made the same as that in any agglutination test. The serum of glandered horses agglutinates *B. mallei* in dilution as high as 1 to 1,600. The reaction is well marked, both macroscopically and microscopically, in dilution up to 1 to 1,000. Normal horse serum agglutinates slowly in dilution up to 1 to 300.

Moore and Taylor conclude as follows regarding this method: "The diagnosis of glanders by the agglutination method is easier and quite as accurate as by mallein. It has this advantage, that it can be used in those cases where there is a rise of temperature and consequently where mallein could not be employed." As in the case of mallein, this method may be employed in doubtful cases in the human being where other means have failed. This has not been done, so far as I know, mainly because of the infrequency of the disease and its usual recognition by the various other means at our disposal.

Figure 1.

Fig. 1.—*B. mallei.* Young 24-hour growth on potato. Coccus-like growth.

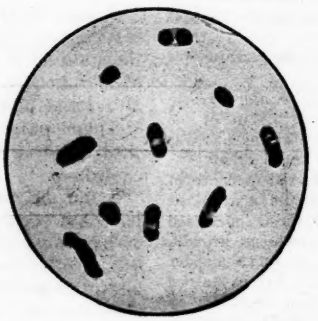

Figure 2.

Fig. 2.—*B. mallei.* 72-hour growth on potato. Barred and polar stained bacilli.

Figure 3.

Fig. 3.—*B. mallei.* 10-day growth on potato. Leptothrix forms. Beginning involution.

GLANDERS INFECTION IN LABORATORY WORKERS.

My attention was focused on this through the repeated thoughtful and urgent admonitions given me by many of the older men in the clinical and pathologic departments who had heard I was working with a recently isolated strain of *B. mallei.* As a result, the following precautions were taken: A long-sleeved operating gown, together with rubber gloves, was always worn while working with cultures or animals. Cultures were destroyed as soon as their usefulness was at an end. Animals were kept in a specially labeled cage, separate from the other laboratory supply. The cage was immediately fumigated and carbolized after the animals had been removed. Autopsy instruments and boards were boiled immediately after use. Postmortem material not to be kept was thrown at once into the furnace. By following these procedures methodically no infection resulted and fortunately no mishaps occurred.

VIRULENCE OF GERM.

There are a number of interesting facts in connection with the virulence of *B. mallei.* It is known that it is one of the most easily destroyed of all micro-organisms; heating to 55 or 60 degrees C. for a few minutes destroys them, and they are extremely susceptible to the action of germicides. In pure cultures the bacilli die usually

14. Preliminary Note on the Sero-Diagnosis of Glanders, Jour. Comp. Pathol. and Therap., 1896, 9, p. 322.
15. "Zur Serodiagnose der Rotzkrankheit," Arch. f. wiss. u. Tierheilk., 1905, 31, p. 353.
16. Zur diagnostischen Verwertung der Rotzagglutination, Centralbl. f. Bakt., 1905, 39, p. 180.

at the end of a few weeks and they lose their virulence by the eighth day. I found both of these statements true. Repeated attempts at transplanting cultures three and four weeks old produced no pathologic results, not even the mildest orchitis when injected intraperitoneally. The *B. mallei* has a larger harvest of deaths from the ranks of laboratory workers than any other pathogenic micro-organism. Every worker in pathologic or bacteriologic fields of any experience can cite personal observations. One of the men at the University of Chicago knows of six cases, all of which proved fatal. I have endeavored to compile a list of cases from the literature, but have failed, because of the fact that among the large number of case reports of glanders in man, only one or two amplify the title by the statement,

Fig. 4.—Experimental glanders. Guinea-pig. Smear from pus from suppurative orchitis. Coccus-like bacilli and pus cells.

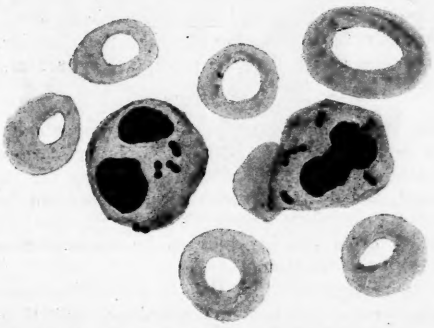

Fig. 5.—Phagocytosis experiment. Preparation of washed leucocytes; normal human serum and 24-hour growth of *B. mallei*. Bacteria within leucocytes.

"a case of laboratory infection." I shall, therefore, speak briefly of a few cases.

Kalming, the man who first demonstrated the value of mallein, in the course of his laboratory experiments became infected with the bacilli and died of glanders. Aufrecht, a pathologist of note, infected himself at autopsy. Zowadski reports an interesting case which, although not strictly a case of laboratory infection, is so closely allied that it may be included as such. The report describes the case of a physician who infected himself from opening a supposed pyemic abscess of the leg, which was shortly followed by death of both patient and physician. The assistant bacteriologist of the Minnesota State Board of Health infected himself in 1904 while working with *B. mallei*.[17] After a long illness he finally recovered.

The most recently reported case of laboratory infection appears in the *Prager Medizinische Wochenschrift*, July 4, 1907, from the medical clinic of v. Jaksch.[18] Here is discussed the case of Mathias Prettner, a government veterinarian, who received his infection from contact with peritoneal pus while performing an autopsy on an inoculated animal. A note in the history tells that

Fig. 6.—Phagocytosis experiment. Preparation of washed leucocytes and bacteria. Bacteria extracellular.

Fig. 7.—Experimental glanders. Guinea-pig. Strauss reaction showing testicular abscesses.

the patient's father, likewise a veterinarian, died from glanders some years previously. The article closes with "the case is to be added to that large number of laboratory infections in which Alexander Knorr and Hoffman v. Wellenhof are likewise to be included."

17. Pyemic Glanders in the Human Subject, Ann. Surg., 1904.
18. Hoke, Ed.: Ein Fall von akutem Rotz, Prag. med. Wchnschr.; 1907, 33 p, 351.

Diagnosis by Exclusion.—In commenting on dermatologic diagnosis, Dr. L. Duncan Bulkley says: "In cases which are not at all doubtful, use the analytical method of diagnosis, noting down any and all eruptions which might look like the one under consideration, and then, by a process of exclusion, eliminate one after the other, until the one is found which answers all or most of the requirements."

THE SUCCESSFUL TREATMENT OF CATARRHAL DEAFNESS.

WITH ESPECIAL REFERENCE TO CONDITIONS IN THE FOSSÆ OF ROSENMÜLLER.*

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It might reasonably be supposed that since Manuel Garcia invented the laryngoscopic mirror, more than half a century ago, nothing of importance could remain to be learned of the commoner pathologic phenomena occurring in the larynx and nasopharynx. A little more than two years ago, in glancing over a report of a discussion on some nasopharyngeal subject, my attention was arrested by a line or two casually mentioning the occasional pathologic existence of adhesive bands across the fossæ of Rosenmüller, from the cartilaginous ring of the Eustachian orifice to the nasopharyngeal walls. These formations had often been observed by me, but I had failed to grasp their significance. I consulted many text-books, but no reference was made to these bands. In April, 1906, I reported[1] six cases of this condition, with astonishingly gratifying results following treatment. Since that time I have operated on about 100 cases. On the whole, the results have been remarkable.

PATHOLOGY.

These formations in the fossæ of Rosenmüller consist apparently (1) of mucofibrous bands, or webs (like the web of a duck's foot), generally in a perpendicular plane to the long axis of the fossa, and (2) of masses of what seem to be granulation tissue or hypertrophied glandular (lymphoid) tissue, similar to the familiar soft adenoid, lying above, between and below these bands, sometimes quite filling the fossa. Their etiology is, perhaps, uncertain, but as they are found almost invariably in persons who have passed the period of adolescence, and in whom a lymphatic tendency has existed, it is not unreasonable to consider them as being, to some extent, the residua of an old adenoid, which may or may not have been operated on. Any catarrhal inflammation, attended by swelling of the membranes, might create a starting point for the formation of the adhesions.

It is well to remember, too, that the Eustachian orifice is moved physiologically, and that the tube is opened for middle-ear aeration by the act of swallowing. Any acute or chronic swelling, causing postnasal obstruction and mouth-breathing would necessarily favor the formation of adhesions, because the very act of mouth-breathing, by rapid evaporation of saliva, makes the act of deglutition much more infrequent, thus leaving the swollen adjacent structures in the nasopharynx in more undisturbed contact. The normal movement of the Eustachian orifice is inward, upward and backward, and this is accomplished chiefly by the levator and tensor palati muscles during the act of swallowing, and in phonation of some of the consonant sounds, and also by the act of yawning. The natural object of this movement is to open the tube for the access of air into the middle ear. In this movement, the tubal orifice is opened in irregular triangular fashion, and the tube is stretched longitudinally, thus opening the lumen, which lies, while at rest, in a collapsed position. The normal excursion of the tubal end is astonishing to one who will observe it, as can often be easily done, through a widely patulous nostril. It is from one-quarter to three-eighths or even one-half of an inch, the two orifices sometimes almost meeting in the middle of the nasopharyngeal space.

It is very clear that these adhesions and granulations in the fossæ exercise a marked inhibitive influence on the range of the tubal excursion. Hence, in these cases there is an incomplete, or perhaps total absence of opening of the tube at the intervals necessary for middle-ear aeration, and there is provided a good and sufficient cause for the appearance of catarrhal deafness.

DIAGNOSIS.

The diagnosis of the condition is easy by means of the rhinoscopic mirror. Occasionally, when the fossæ are almost or quite filled with formations which happen to present a more or less smooth surface, the appearance will be that of very shallow or absent fossæ. A mistake should not be made. The fossa is never absent and never very shallow in the adult. At least three-eighths of an inch of natural depth is always present, and sometimes considerably more.

The granulations or glandular hypertrophies sometimes extend down below the end of the fossa, and appear, on oral examination, as reddish elevations or thickenings just behind the posterior faucial pillar. This appearance is often given the name of lateral pharyngitis, and its treatment by the ordinary routine has heretofore been rather unsatisfactory.

If the patient has a wide open nostril all the way through, anterior rhinoscopy will show a limited excursion of the tubal orifice during the act of swallowing. Inspection of the tympanic membranes will show a lessened or absent light reflex, a ground-glass, lusterless appearance, with more or less depression. The hearing will usually be perceptibly dulled, and if the condition is of long standing it may be almost lost. Bone conduction of sounds will be good, while air conduction is seriously impaired, showing that the disorder is of the passages and not of the perceptive apparatus.

SYMPTOMS.

The subjective symptoms are numerous and sometimes very distressing, and one or another of them may completely overshadow, in the indications for its suppression, the deafness which may or may not be very slight. Prominent among these is tinnitus aurium, which is often entirely relieved by appropriate attention to these formations.

It seems probable that the lesions in the fossæ offer a considerable reflex symptomatology, and that they cause direct symptoms in neighboring structures by pressure on the muscles, the stylo-pharyngeus, the palato-pharyngeus, and the constrictors of the pharynx. Thus, as a result of this irritation, there is sometimes present a periodic or occasional laryngeal irritability and congestion, with hoarseness or an irritating cough, for which no cause can otherwise be assigned. I have seen one case where this symptom persisted and progressed for several years. The cough was severe and distressing, and the voice raucous. A diagnosis of chronic bronchitis had been made, and, finally, tuberculosis was suspected. The whole gamut of therapeutics was run. Recovery occurred after the removal of the adhesions in Rosenmüller's fossæ.

A bronchial inflammation may be set up by the constant cough, as probably occurred in this case. A feeling of stuffiness and fullness in the ears is often com-

* Read before the Tri-State Medical Association of the Carolinas and Virginia, Charlotte, N. C., Feb. 18, 1908.

1. Jour. S. C. Med. Soc., May, 1906.

plained of, often with a tense, drawn, uneasy feeling extending from the ears down the throat and neck, behind the angles of the jaws. There may be a deep dull pain around and through the ears, perhaps radiating toward one or more adjacent parts. Sometimes the patient will be quite unable to locate the discomfort with precision, though more than once I have heard a patient exclaim as the adhesions were broken up: "Ah, Doctor, you got right to the spot! I have frequently had an insane desire to run my own fingers up behind there and tear something loose," or words to that effect.

There is always present in some degree a form of postnasal catarrh. Even if the catarrh existed prior to the lesions, which is likely, the latter would increase the catarrhal tendency, for the bands across the fossæ form little pockets which are ideal lodging places for mucus and dust and infection of any sort that may be inspired by the patient. There is frequently a sensation of popping or cracking in the ears while swallowing, or yawning, or moving the jaws. There may be a persistent and irresistible desire for frequent yawning. I have seen one case where frequent, long continued and distressing attacks of sneezing could be controlled only after clearing out the fossæ. A subjective sense of a lump or obstruction in the throat, that can not be swallowed, may be noted. Itching in the external auditory meatus is not unusual.

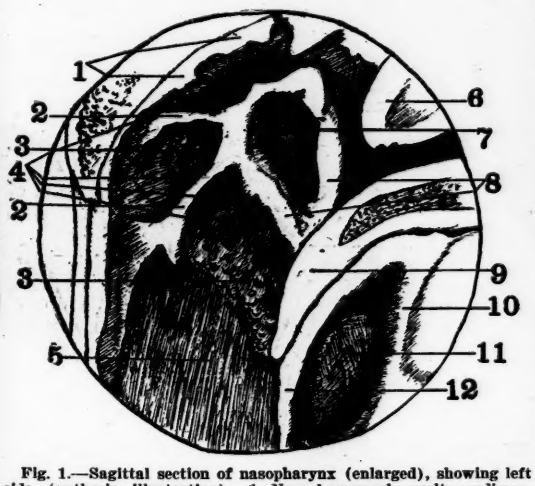

Fig. 1.—Sagittal section of nasopharynx (enlarged), showing left side (author's illustration). 1. Nasopharyngeal vault, rudimentary adenoid. 2. Fibromucous bands of inflammatory origin, attached anteriorly to the posterior lip of Eustachian ring, and posteriorly to the latero-posterior wall of the nasopharynx. 3. Masses of granulation or lymphoid tissue in the fossa. 4. The fossa of Rosenmüller. 5. Lateral pharyngeal wall. 6. Posterior end of left inferior turbinate. 7. Eustachian orifice. 8. Cartilaginous Eustachian ring. 9. Uvula. 10. Left anterior faucial pillar. 11. Faucial tonsil. 12. Posterior faucial pillar.

Symptoms of vertigo may be present. Distinct mental depression and the phenomena of nervous derangement may result from the constantly recurring attention of the patient to the unlocated and therefore unrelieved uneasiness and annoyance.

TREATMENT.

The treatment of the condition is simple and painless. After thorough cocainization the operator, facing the patient and slightly to his right, passes the right index finger (palm of the hand up) through the mouth, behind the soft palate and into the postnasal space (Fig. 2). After locating the landmarks of the space, the finger tip is placed over the top of the cartilaginous ring of the tubal orifice into the upper end of the crescentic fossa. Pressing the finger firmly and deeply into the fossa, it is swept backward and downward throughout the fossa's length, breaking down all resisting tissues, repeating the movement if necessary, and not failing to break up the mass of granulations which frequently occupies the extreme lower end of the fossa behind the posterior faucial pillar. By inclining the finger to the opposite side it can then be treated in the same fashion, thus attending to both sides without withdrawing the finger. After the bleeding, which is usually slight, has ceased a cotton-tipped, curved, postnasal probe, dipped in a 5 to 10 per cent. silver nitrate solution or a 30 per cent. argyrol solution, is firmly swept through the fossæ. This application should be repeated every forty-eight hours for ten days or two weeks.

RESULTS.[2]

Results are excellent, sometimes brilliant, even apparently miraculous, and often immediate. I have several times seen the hearing of a patient improve from

Fig. 2.—Correct position for operation.

200 to 300 per cent. within a half-hour of the operation. The improvement is a permanent one, which usually improves still further under persistent catheterization and routine applications. The latter should always be carried out faithfully in these cases. It should be stated, however, that there seems to be a relatively constant point in the loss of hearing, which, if exceeded, must provoke a prognosis of arrest of the progress of the dis-

2. Since taking up this subject, I have found in the current medical literature of the past few years the following articles bearing on these conditions in the fossæ of Rosenmüller. It is striking to note that all the writers reported brilliant results following proper attention to these conditions.

Phillips, W. C.: Manhattan Eye and Ear Hospital Reports, N. Y., 1894, i, 98.
Myles, R. C.: Trans. Am. Otol. Soc., 1897, vi, 506.
Goodwillie: N. Y. Med. Jour., Aug. 24, 1889, 208.
Graef, C.: Post-Graduate, N. Y., 1903, xviii, 784.
Royet: Bull. de Laryngol., Otol. et rhinol. Par., 1904, vii, 248.
Grazzi, V.: Ann. d. mal. de l'oreille, du larynx, etc., Par., 1899, xxv, Part 2, 390.
Zanfel: Arch. f. Ohren., 1880, xv.
Politzer, A.: Diseases of the Ear, 1902.
Royet: Rev. hebd. de laryngol., etc., Par., July 7, 1906.
Brunk, T. L.: Laryngoscope, August, 1906.
Jervey, J. W.: Jour. S. C. Med. Soc., June, 1906.
Pynchon, E.: Laryngoscope, March, 1907.
Bryant, W. S.: Med. Rec., June 8, 1907; Feb. 8, 1908.

ease rather than of an increasing hearing power. According to my experience, it can be stated in a general way that if the hearing has become dulled to a point where the ordinary watch can be heard ticking only on contact with the auricle, little is to be expected in the way of increasing hearing. But the progress of the disease is checked, and when we consider the usual distressing course of this condition that is a good deal to accomplish. The most favorable and remarkable results are obtained in those cases where the watch can still be heard four to five inches or more away from the auricle. Of course, the more recent the impairment of the hearing has been in these cases the brighter is the outlook.

Just as gratifying, and often equally as brilliant, are the results of this treatment when the other common symptoms mentioned above are dependent on these lesions. Of course, if a long-standing symptom, such as chronic irritative cough, has produced organic changes elsewhere we can not expect immediate disappearance of the trouble, but the removal of the cause will surely pave the way for the cure.

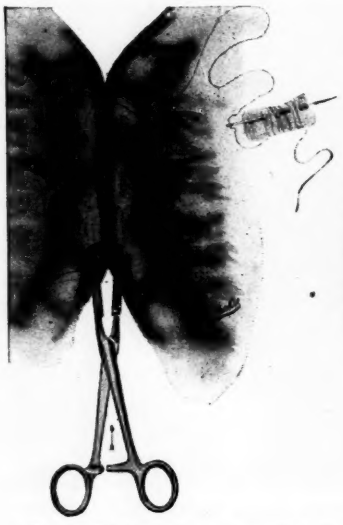

Fig. 1.—Bodkin points of forceps blades at beginning of insertion. The back half of the enclosing suture inserted.

Fig. 2.—Completion of suture circuit. Last stitch loosely drawn around blades. Insertion of enterotome.

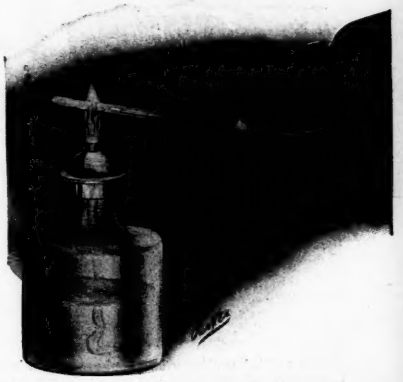

Fig. 3.—Cautery blade to follow cutting blade, being heated in alcohol flame preparatory to use.

RAPID AND ASEPTIC ANASTOMOSIS OF THE HOLLOW VISCERA BY A NEW METHOD.

E. WYLLYS ANDREWS, M.D.
CHICAGO.

To be able to unite two hollow viscera rapidly without exposing the lumen of either is an ideal technic which many have believed unattainable. Asepsis, speed and simplicity of operating are attained by the McGraw ligature, but not a rapid anastomosis. The fact that the opening is not produced until the elastic ligature can cut through prohibits its use in purely intestinal work or where obstruction must be relieved promptly.

The first device to overcome this objection was the method of Dr. Werelius of Chicago who used a silk cord in place of the rubber of McGraw. The ends of this cord were allowed to hang out between two stitches and at the last moment were drawn back and forth with a sawing motion until the included walls were cut through. As this cutting took place in tissue surrounded by an encircling suture no leakage was possible.

If we analyze the results obtained by the McGraw ligature we find that in spite of certain great drawbacks they involve new and important principles never obtained before in abdominal surgery. These are:

1. Exclusion of mucosa: No hole but the needle puncture is made in the viscus, hence no clamps are needed and no leakage can occur.

2. Anemia of the tissue divided. No bleeding can occur because of the pressure and because no cutting is done.

3. Saving of time: In my clinic the time of the visceral part of the work ranged from four and one-half to eight and one-half minutes.

To offset these advantages several serious drawbacks are met:

1. It does not create at once an opening. This limits its use practically to stomach work.

2. It crumples and puckers the bowel and stomach wall so that the surrounding Lembert stitch becomes irregular and may narrow the opening. By care we can avoid this, but it is a drawback. Any new method yielding the large immediate opening of the Kocher or the Moynihan gastro-enterostomy and having the safety and celerity of the McGraw ligature would be a step in advance; even if it gave only the half-sized opening of the channel in the Murphy button it would do as well. The method and new appliances about to be described seem to me to accomplish all these aims.

The device consists essentially of forceps having blades equal to the length of the openings desired in the viscera, these blades being bodkin pointed, like the McGraw needle, and rather slender.

They are thrust into the two opposing organs after the preliminary suture exactly as the McGraw needle is used. When the handles are closed, as in Figure 1, they act as clamps holding the parts in a straight line instead of crumpled up and shortened as the rubber ligature holds them. This makes an excellent splint and guide for placing the anterior part of the suture. The latter is now continued until it meets the starting point, when one loop of the last stitch is made to surround blades near their point of insertion (Fig. 2).

After locking the blades hard enough to crush the walls and hold them firmly a slender chisel-pointed blade is thrust through the two grooves which form a sort of tunnel in the closed blades (Fig. 2). This cuts a linear opening entirely through the walls of both viscera. For the sake of greater asepsis and hemostasis I have sometimes followed this by the cautery blade shown in Figure 3. In other cases I have omitted this, but have had no cases of hemorrhage or infection in either method.

Figure 4 shows a simpler and earlier form of the forceps which I used for about two years in over sixty cases on the human subject, but did not publish a description of it. A similar appliance is described by Flint,[1] who had independently hit on the same idea. The devices are so similar that this form (Fig. 4) might with propriety be called Flint's forceps.

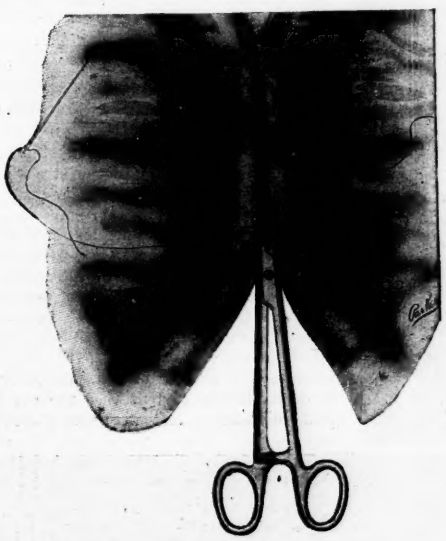

Fig. 4.—Scissors form of enterotome. Stitches employed as in Figure 1.

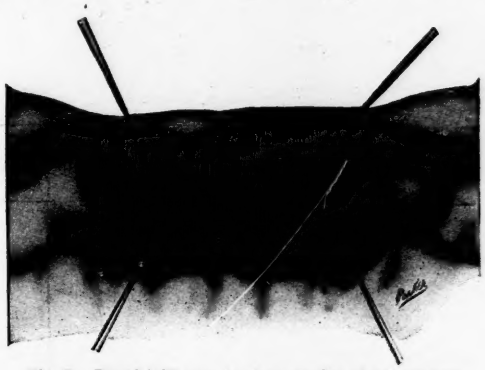

Fig. 5.—Bowel laid open to show results of enterostomy.

A drawback to the use of sharp scissors-like instruments is that they may cut the encircling stitch unless great care is used. A number of the forceps of this form have been sent out by the instrument-makers under my name, and it has been the experience of myself and several teachers that a novice in using them is liable to cut the stitch and let the viscera fall apart on one side. This can always be avoided by turning the loops of bowel over and looking at the back suture before making the blades cut through, to make certain that no part of it is caught in the blades.

A more serious feature of both forms as well as the Werelius cutting ligature is the possibility of hemorrhage. Nearly all experienced observers raise the question at once as to how this is avoided or detected. I believe it is a substantial danger and drawback, but one which can be avoided entirely by care. No large arteries like those in the stomach wall should be crossed by the line of anastomosis in this or any type of operation. The line of opening should be between parallel branches.

The crushing action of the improved forceps and the subsequent use of the heated probe tend to make the work bloodless, but our main dependence should be on careful deep suturing. Each vessel should have a continuous loop of linen thread thrown about it as the stitch line crosses it. In fact the whole suture should be deep and mattress-like; something between a Lembert and a Connell stitch, resulting in a clamp-like grip of the thread almost as effectual as the Murphy button in compressing all the coats in its loops.

In experimental and teaching work this is by far the most rapid method of anastomosis. It can be done on inflated animal gut in from three to five minutes, the stitching being fine enough to be air and water tight, i. e., about eight stitches to the inch.

In actual operations two or three times as many minutes should be spent in order to get a fine closely set suture, every loop of which goes deeply into the visceral walls and occludes every vessel of dangerous size. Intestinal and stomach clamps are not to be employed.

1. Eine neue Methode zur Herstellung von Anastomosen am Magendarmtrakte, Archiv f. klin. Chirurgie, 1906, lxxx, 4, 988.

Clinical Notes

UNRECOGNIZED FRACTURES OF THE HIP.

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This article is prompted by the belief that fractures of the hip in adults occur more often than is usually admitted, and that not infrequently the true condition is masked by a diagnosis of sprain or bruise. That these fractures are often unrecognized can be attributed mainly to two reasons:

1. The trivial fall causing the injury, such as stumbling over an obstruction when walking.

2. The fragments are often impacted and with such an inappreciable amount of shortening that the medical attendant fails to detect it. Feeling no crepitus or unnatural mobility, he assumes that the injury is only to the soft parts.

Within the past two months three patients with recent fractures of the femur have limped into my office unassisted, except by a cane. One sought electric treatment for pains about the joint, the others came for Roentgen diagnosis. As I consider these cases of some interest, I will give a brief report of each, with comments:

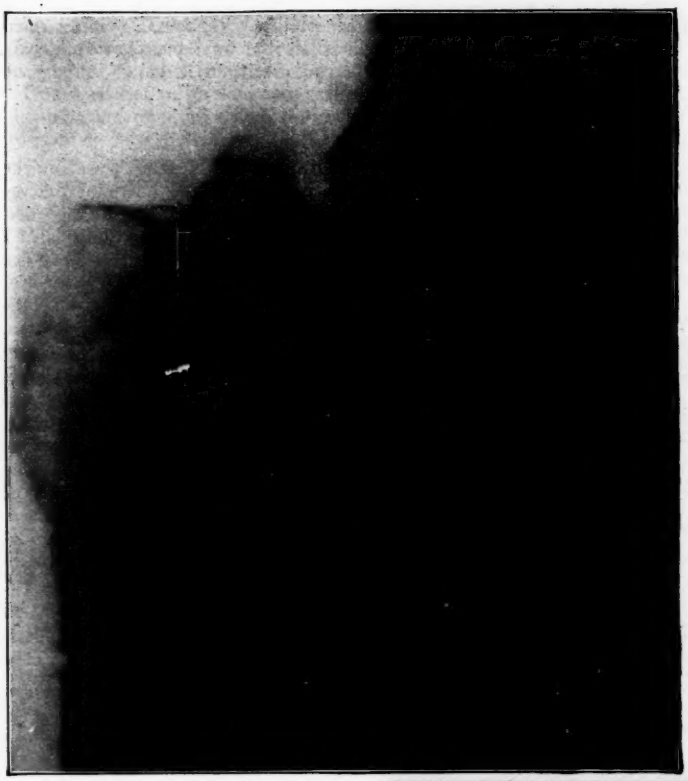

Fig. 1.—Fracture of neck of left femur.

CASE 1.—Man, about 40 years of age, in good physical condition, was wrestling with a friend. Both fell to the ground, side by side. The friend got up, unhurt. The patient arose with great difficulty, said he felt weak, and had an acute pain in the hip on which he had fallen. Supported by the friend, he walked three blocks to a physician's house. As there apparently was no reason to suspect a fracture, he was given a hurried examination. A liniment and a few days' rest in bed were prescribed. After a week the patient returned to work. The hip was somewhat swollen and painful, but the man was able to get about fairly well with a cane. However, after six weeks of more or less suffering, he was directed to my office for electric treatment. A radiogram of the injured side showed impacted fracture of the femoral neck (Fig. 1). At present there is nearly an inch shortening, and patient still complains of pain from irritation produced by using the leg too much. The soft parts about the joint are enlarged; bony union is firm. Result good, considering treatment.

CASE 2.—Woman, aged 48, either fell over a chair on to the floor or out of bed to the floor, striking the side of the thigh and hip. The fall was insignificant, but the pain and discomfort were so acute that the patient went to bed and called a physician. On examination he pronounced it an injury to the ligaments of the hip. Hot applications were advised for a few days, after which the patient was told to get up and exercise the leg. This caused severe pain, and the patient complained that the leg would not bear her weight. The doctor assured her that the pain would leave as soon as she began to walk a little. As improvement seemed so tardy, the patient's daughter, a trained nurse, called in several physicians. They corroborated the first physician's diagnosis. One, however, said it was hysteria. Electric treatments were advised for the latter condition. Meanwhile the hip was still painful, more swollen and unwilling to support that side of the body. Exercise and electricity were applied every day. The hip getting worse and the patient failing generally, she was advised to go to California for her health.

In Los Angeles the lady presented herself to Dr. E. H. Garrett for treatment, who, in turn, referred her to me for *x*-ray diagnosis. Figure 2 shows a complete fracture of the femoral neck, with impaction.

CASE 3.—This gentleman, in stepping out of his automobile, fell to the street and injured his hip. Dr. E. J. Cook, on examination under anesthesia, found the femur dislocated, the head lying on the anterior lip of the acetabulum. No crepitus nor other signs of fracture could be detected. Reduction was made successfully. The patient was put to bed and treated according to the condition found. Ample time being allowed for the repair of the soft structures, the patient was permitted to get out of bed. On attempting to walk, it was evident that the amount of pain, discomfort and weakness present was

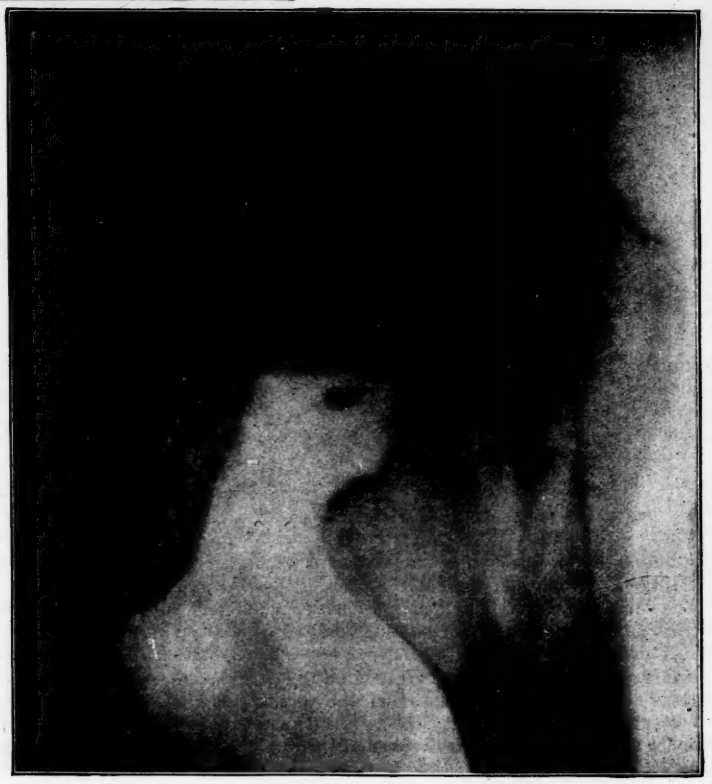

Fig. 2.—Fracture of neck of right femur, with impaction.

out of all proportion to the comparatively slight injury incurred. Therefore, Dr. Cook instructed the patient to have a Roentgenogram of the injured side taken, which is shown in Figure 3. Imagine our surprise to find a fracture, and one so thoroughly impacted that it remained intact during the manipulations necessary to reduce the dislocation. In the plate can be seen the reason for the rigidity of the fragments and the insignificant shortening. The neck of the femur is only partly telescoped, the head rotating just far enough upward to permit the sharp angle of the lower fragment to be driven into the center of the upper frgament as a wedge. The lesser trochanter has become firmly braced against the lower angle of the upper fragment, thus preventing any upward displacement of the shaft.

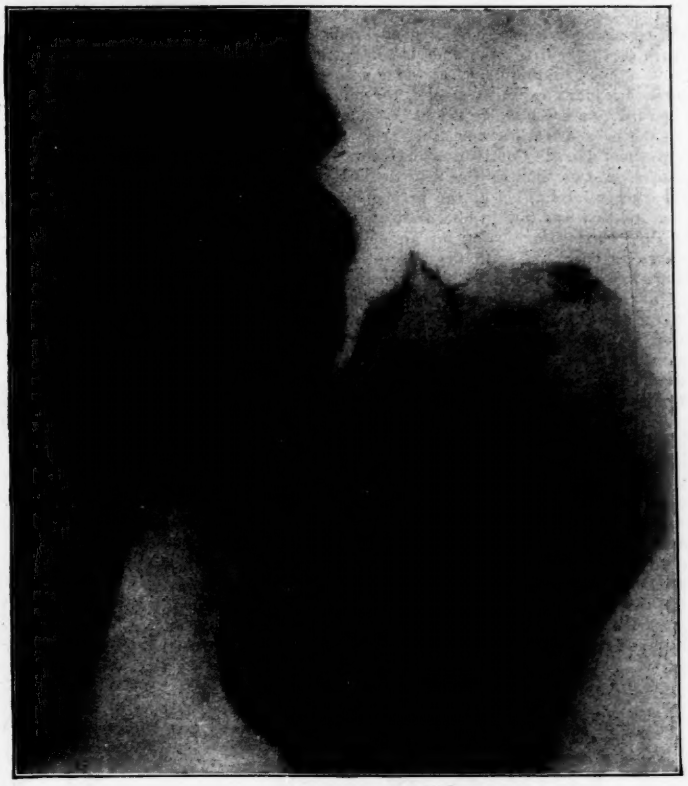

Fig. 3.—Fracture of neck of right femur, with impaction.

It would seem from these cases, then, that we may conclude:

1. It is not always safe to pass lightly on what appears to be a minor injury of the hip joint, especially when found in middle life and after.

2. An examination under anesthesia can not always be depended on. Here, if anywhere, the integrity of the joint is maintained by the impaction, and if sufficient force is used to elicit crepitus, the result may be disastrous to the patient.

3. The easiest way to determine the extent of the injury, and to remove all questionable doubts in such cases, is to make a Roentgen diagnosis. There is no longer any reason for denying the patient this means of verification, for competent radiographers may now be found everywhere.

MUSCULOCUTANEOUS NEURITIS FOLLOWING RUPTURE OF BICEPS.

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The following case illustrates a rather unusual injury, and also a definite cause of a neuritis, the etiology of which was purely traumatic. The history of the injury, the development of the neuritis, its progress and cure, after the repair of the ruptured muscle, tend to prove the correctness of the above assertion.

Patient.—P. L., of German extraction, aged 55, a building contractor, came to me four months ago.

History.—The patient, a man of excellent habits, and having always enjoyed good health, complained of great pain in upper right arm. In July, 1907, while on a ladder, some twenty feet from the ground, he fell, and in falling, grasped with the right hand a projecting beam. This broke his fall, but immediately after a sharp pain was felt in right shoulder and arm. There was no evidence of other injury. The arm became swollen at and about the shoulder, the swelling extending to the elbow, with some pain and loss of function in the arm. Little or no attention was given to the injury until after the tenth day, when an intense pain started in the arm, which grew progressively worse. This pain was so intense as to cause him to lose sleep at night, but was less during the occupations of the day. At no time was he compelled to use his arm in manual labor, but with some difficulty he found he could sign checks, letters; etc. At this time he consulted a physician, who for one month used the electric current on his arm, shoulder and back. This treatment was given to relieve the pain, which was continuous and most severe. At the end of one month the condition was much worse, and it was at this time that he came to my attention.

Examination.—He was emaciated, had a pinched expression and was extremely neurotic. Physicial examination was negative save for the right upper arm. Just above the bend of the elbow on the inner aspect of the arm was found a firm mass, globular in shape and about 5 cm. in diameter, movable in all directions to a moderate degree, but less so downward. This mass (Fig. 1) was thought to be muscular tissue, and a part, if not all, of the biceps. The mass itself was not tender, but immediately above it and to its outer lower aspect there was marked tenderness to pressure. There was some anesthesia along the outer aspect of the forearm extending to the wrist. Extension and resisting flexion of the forearm caused great pain. There was little or no strength in his grip, and he could not abduct his arm beyond 45 degrees. Rotation at the shoulder and elbow joints was normal when performed slowly. There was a marked depression in the fleshy part of the arm just above this mass, and a slight backward displacement of the head of the humerus was detected.

Diagnosis.—Because of the absence of pain along the median nerve, it was determined that this must be a case of neuritis of the musculocutaneous, secondary to a rupture of the biceps at one or both of its upper attachments, and following the contraction of the ruptured muscle. It must be borne in mind that the musculocutaneous nerve arises from the outer cord of the brachial plexus opposite the lower margin of the pectoralis minor muscle. It at once enters the coracobrachialis, through which it passes downward and outward, into or between the biceps to the outer side of the arm, where it divides into an anterior and posterior branch. It supplies these muscles, and of course throws off filaments into the body of the muscle.

Treatment.—Because of the general condition of the patient an operation was not considered advisable at this time, and a cure of the neuritis was undertaken by relieving the contraction of the torn muscle, by applying a snug bandage about the arm, below the ruptured muscle, the muscle thus being drawn upward to a considerable extent. The arm was then bandaged to the body in such a way as to relax the muscle and hold it quite motionless. Constitutional treatment was also instituted, and after two months the neuritis had entirely disappeared. The general condition of the patient was then excellent, and the question was put to him as to the advisability of wearing a snug bandage and sling for an indefinite period, or to undergo an operation, with the hope of replacing the muscle in such a way as to relieve him permanently of the possibility of a return of the neuritis. He selected the operative treatment, and although 55 years of age, his general physical condition was so good the operation was thought advisable. On careful examination before operation a rupture of the long head of the biceps was positively determined, but the condition of the short head was not definitely fixed.

Operation.—On Dec. 28, 1907, I operated at the Henrotin Memorial Hospital. The incision was carried from the lower border of the insertion of the pectoralis major muscle, parallel with the fibers of the biceps, downward for a distance of about three inches. Dissection was carried directly down to the ruptured muscle, and it was found that the long head had been torn from its attachment at the upper border of the glenoid cavity, and had so contracted that the surface of attachment had become invaginated into the belly of the muscle (Fig 2). The short head was intact except at one point where its sheath showed scar tissue, as if it too had been partially ruptured. Not finding it possible to replace the contracted muscle and

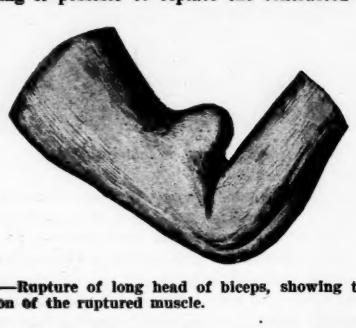

Fig. 1.—Rupture of long head of biceps, showing tumor due to contraction of the ruptured muscle.

tendon into their original positions, I dissected the tendinous portion free from its invagination and adhesions, and brought it up on the belly of the short head. The sheath of the short-headed biceps was then split and the long head planted well upward into it, care being taken to suture its freshened tendon surface to the freshened tendon surface of the short head (Fig. 3). Interrupted catgut sutures were used in the muscle suture and the wound closed and sealed. The arm was then placed in a flexed position in a supporting plaster cast. At the end of the third week the cast was removed and the arm carried in a sling. This was in time dispensed with, and the full use of the arm urged.

Postoperative History.—The result has been more than was hoped for. There has been no return of the neuritis, and the functions of the arm are almost normal. Elevation of the arm at right angles with the body is not yet complete, but greatly improved. Rotation, extension and flexion are normal, excepting as to strength, but it is too early to expect a full return of it, considering the long period of disuse to which the arm was subjected. The occupation of the patient does not require of him any manual labor, but if it did I feel confident that within a few weeks he would be able to perform any work he might have done previous to the rupture of the biceps and the subsequent neuritis.

Looking up the literature on the subject of rupture of the biceps, it was found that Schreiber and Hofmeister state that this affliction occurs chiefly in men, and that the long head is most commonly affected. Maydl collected 18 cases in which the long head was ruptured in over 50 per cent.

Loos collected 66 cases of rupture of the biceps, 2 of which were in women. Among 56 of these cases only 2 occurred in the short head, 1 of both heads, 3 of the common belly, and 3 of the distal tendon, in contrast to 49 of the long head. Petit found the tendon of the long head ruptured in only 43 out of 83 cases.

There are several points in this case which are of interest: 1. The neuritis was not due primarily to direct injury of the nerve, but resulted from the contraction of the ruptured biceps. 2. The electric current caused the muscle fibers to contract still more, thus aggravating the neuritis. 3. The neuritis was cured when the dragging on the nerve by the ruptured muscle was

Figure 2.

Figure 3.

Fig. 2.—Invagination of the ruptured biceps muscle.
Fig. 3.—Position of the ruptured long head of biceps after suturing into unruptured short head.

relieved. 4. The function of the arm is restored practically to its normal condition, with the biceps acting as a one-bellied muscle attached to but one head.

Bills Against Michigan Estates.—There is a law in Michigan that bills against an estate of a deceased person which do not exceed $20, if disallowed by the commissioners, can not be appealed. A Detroit doctor recently presented a bill against an estate for $10, which the commissioner disallowed and it could not be appealed. The duty of Detroit doctors is obvious. They should not render a bill against a Michigan estate for less than $20.—*Lancet-Clinic.*

TWO CASES OF GONORRHEAL ARTHRITIS.

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Two cases of septic arthritis, gonorrheal in origin in which both patients were operated on; one terminating fatally, the other in complete recovery, may serve as an illustration of the advantage of prompt surgical interference in this complication of gonorrhea, when contrasted with the so-called expectant plan of treatment. In the case of the patient who died, there was a delay of twelve days from the onset of the septic temperature until the knee joint was opened. In the other case, two days after the septic temperature appeared, both knee joints were opened. In one patient it was an initial attack; in the other, the man had probably lost count of the number of attacks.

CASE 1.—Patient, aged 36, unmarried, a structural ironworker by trade, weight 220 pounds, robust, and the picture of health; had used alcohol to excess on occasions, but could not be called an habitual drinker.

History.—Previous venereal history was negative. The initial symptoms appeared Nov. 15, 1907, within four days after suspicious exposure. He was treated in Chicago and the discharge stopped in two weeks. For one week symptoms were absent.

December 8: He came to me with a renewal of the discharge and some preputial edema; he denied venery since first symptoms. Under treatment by urethra irrigations and urinary antiseptics the discharge again cleared up in four days. Two days after he first applied for treatment he reported with a slight pain in the calves of his legs and in one or two metacarpophalangeal joints. The next day the pain in his calves had increased so as to interfere with walking, and additional joints on his hands were involved, but he ascribed his symptoms to the grip, then present in his boarding house. Temperature was 101.

December 12: He was unable to report. His right knee was swollen, hot and painful, with extension of inflammation to the periarticular structures; it was extremely tender on pressure. Pain and swelling in the metacarpophalangeal joints were subsiding; urethral discharge had stopped. Temperature was 102. He was removed to the hospital that night.

Hospital History.—During the first week's stay in the hospital there was a decided amelioration of all symptoms, under symptomatic treatment with icebags and fixation of the infected knee. The urinalysis showed: Acid reaction, reddish amber color; heavy sediment of urates, specific gravity 1.030; albumin and sugar negative microscopic examination, excess amorphous urates and some uric acid. With the clearing up of the genitourinary symptoms all the infection had apparently centered in the right knee joint, and there seemed to be some grounds for doubt as to whether the arthritis was gonorrheal or ordinary rheumatism.

December 19: The man began to run a septic temperature; at the end of two weeks this changed to a pyemic temperature, with remarkably large daily fluctuations, and continued so, although he was under active stimulation until his death.

Treatment.—At the beginning of his septic state three dry cups were used on the knee joint and a posterior splint was applied. Fluctuation persisted, although the pain had subsided and tenderness was elicited only on rather strong pressure at the head of the tibia.

Operation.—December 31, I opened the joint under cocain anesthesia and evacuated about two ounces of seropurulent fluid; double drainage was inserted and the joint cavity flushed with a 1 to 6,000 solution of bichlorid of mercury, followed by a saline solution. Further than a slight drop in temperature this procedure was without effect on the man's general condition. Two days later he had daily, sometimes bidaily chills, followed by drenching sweats, a condition that was typically pyemic, and it daily became more apparent that he was losing ground. Drainage from the joint was insignificant. A long and careful search of a smear of the pus from the joint failed to reveal bacteria of any kind.

Subsequent Treatment.—Four days before his death, Jan. 14, 1908, I injected under the right breast one cubic centimeter of gonococcic vaccine, containing 50,000,000 dead bacteria, more in the hope than in the belief that it would do good, but feeling reasonably sure that, at least in the desperate condition in which the patient then was, it could do no harm. Apparently it had no influence whatsoever. The use of the vaccine is only mentioned incidentally for, as a test for this treatment, it could not be considered fair.

CASE 2.—Patient, aged 34, acknowledged gonorrhea four years ago, with a fairly constant discharge since.

History.—He had a prostatic abscess, with symptoms of stricture; abscess burst in perineum Jan. 13, 1908; this was opened freely, together with a scrotal abscess, at the Mahoning Valley Hospital on the next day. Recovery was uneventful.

February 8: I found him with a double orchitis. He was removed to the hospital. Three days later he complained of pain and tenderness in both knees, in his insteps, over one internal malleolus and particularly in the soles of his feet. On February 15 there was effusion in both knees with a slight rise in temperature; the next day he complained of his left elbow. The only distinctive feature of a urinalysis was the great number of pus cells and bacteria present. The orchitis had subsided.

Operation.—February 17, under general anesthesia both knee joints were opened and drained. Fluid was seropurulent, about an ounce in each joint. Microscopic examination showed the pus cells but no bacteria. All his symptoms immediately began to clear up and in one month he left the hospital with a good pair of knees.

PRIMARY TYPHOID CHOLECYSTITIS AND CHOLANGITIS.

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Comparatively few cases of this rather anomalous condition appear in literature. In view of this fact the following case seemed worthy of reporting. It occurred in the service of Dr. S. Solis Cohen at the Philadelphia General Hospital. I feel greatly indebted to Dr. Cohen for the privilege of reporting the same.

Patient.—J. R., aged 52 years, male, white, laborer, was admitted to the Philadelphia General Hospital Dec. 23, 1907. His chief complaint, on admission, was intense itching of the skin.

Family History.—Parents both deceased; causes of death unknown. No brothers or sisters. No history of tuberculosis, cardiac, renal or malignant disease was obtainable.

Past Medical History.—He had morbilli, pertussis and varicella in childhood. Since that time he has never been confined to bed by illness. When 20 years of age, he had a chancre and specific urethritis. Duration of treatment is unknown. He used tea, coffee, alcohol and tobacco to excess.

Present Illness.—Five weeks previous to admission he fractured several ribs on the left side. Since that time he had suffered with gastric disorders. Vomiting attacks occurred every day; they were unaccompanied by pain, and seemed to bear no distinct relationship to the taking of food. These symptoms he attributed to the fractured ribs. The bowels were obstinately constipated. On the day of admission he suffered with headache, drowsiness and chilly sensations. At this time he first noticed the yellowish discoloration of the skin, which was attended with intense itching.

Examination.—Patient was a well-nourished middle-aged male. His physiognomy was not expressive of any severe pain or discomfort. The skin of his entire body was of a deep golden yellow color. The pupils were equal and reacted to light and

accommodation. Ocular movements were good. Conjunctivæ were markedly icteroid. The tongue was moist and heavily coated with a yellowish-white pultaceous fur. No tremor, deviation or anomaly of protrusion was present. Pulse was comparatively infrequent, rhythmic, of moderate volume and tension, and the artery was sclerosed. The thorax was emphysematous in type. Expansion was generally diminished, but equal in all directions. Lungs were hyper-resonant throughout. Breath sounds were of weak, vesicular type; expiration was prolonged. A few crepitant râles were audible at both bases. The apex of the heart was visible and palpable in the fifth intercostal space in the midclavicular line; the impulse was feeble. The entire area of cardiac dulness was slightly increased transversely. Soft blowing systolic murmur was audible in the mitral area, was transmitted to the left axilla. It almost replaced the first sound. Pulmonic second sound was considerably accentuated. Examination of the abdomen revealed slight distention. Slight increased resistance and considerable tenderness were present in the right hypochondrium. The liver extended two finger-breadths below the costal margin, its edge being readily palpable. The gall bladder could not be felt. The spleen was slightly enlarged to percussion, but was not palpable.

Course of Disease.—The temperature on admission was 100 F. For the next four days it ranged between 100 and 101 F. It then ascended and for five days ranged between 102 and 104 F. Defervescence occurred by lysis, the temperature reaching normal on the sixteenth day from the time of admission.

Blood Examination.—On the day of admission the hemoglobin was 5.5 per cent.; erythrocytes, 2,890,000; leucocytes, 8,200; differential count, polymorphonuclear, 60 per cent.; small lymphocytes, 8 per cent.; large lymphocytes, 32 per cent. Three marked positive Widal reactions were obtained.

Feces.—Typhoid bacilli were isolated in considerable number.

Urinalysis.—On day of admission the urinary findings were as follows: Color, dark amber; reaction, acid; specific gravity, 1.023; slight trace of bile; no albumin or sugar. Microscopic examination disclosed triple phosphate, uric acid, epithelial cells, bacteria and débris.

On admission this case presented the evidences of an ordinary catarrhal cholecystitis and cholangitis. The positive Widal reaction, the absence of a leucocytosis, the marked increase in the large lymphocytes and the presence of the typhoid bacilli in the feces, led to a diagnostic infection of the gall bladder and ducts with the Eberth's bacillus. As is well known, cholecystitis and cholangitis are rather frequent as complications or sequelæ of enteric fever.

Primary typhoid cholecystitis and cholangitis—that is, inflammation of the biliary tract, without other evidence of past or present typhoid infection—are comparatively rare. In reviewing the literature on the subject I find that Pratt[1] was the first to call especial attention to this condition. He reported two cases, one of which was gangrenous and associated with a localized peritonitis. Similar cases have been reported by Cushing,[2] Richardson,[3] Mitchell,[4] Stockton and Lyte,[5] Burley,[6] Stewart,[7] and Kelly.[8] The preceding case well illustrates the necessity of making careful examination of the blood and feces, for if this is not done, the essential underlying etiological factor will remain unrecognized.

I am confident that these cases occur far more frequently than the literature on the subject would lead us to believe. Careful examination of the blood and feces not being made in all cases, the origin of the disease is attributed to other factors than the typhoid bacillus.

1. Am. Jour. Med. Sc., November, 1901.
2. Johns Hopkins Hosp. Bull., 1898, ix, 91.
3. Boston Med. and Surg. Jour., Dec. 2, 1897.
4. Maryland Med. Jour., 1901, xliv, 13.
5. New York State Jour. Med., 1902, ii, 232.
6. Am. Med., October, 1903.
7. Am. Med., 1904, vii, 1019.
8. Am. Jour. Med. Sc., September, 1906.

ANGIONEUROTIC EDEMA OF THE GENITALS.

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Angioneurotic edema is a condition interesting enough to warrant the reporting of cases, and this patient presents clinical aspects rather striking and probably without the common experience of most of us. To transcribe his clinical history in full would be to write a monograph—even to relate essentials details is no easy task, but the following outline contains the salient features.

History.—Mr. X., age 27, single. Family history unimportant, except that both his aged parents suffer with chronic organic cardiac disease. A young man in good circumstances, he has been in the front rank in athletics, and has indulged in the usual life of young men of the day, but not to any great excess. No serious diseases, other than repeated attacks of gonorrhea, until three years ago.

Three years ago, while in New York, the patient called me to see him. He had been under treatment by a physician for a chronic gonorrhea, but at this time he was feeling very miserable, suffering particularly with nocturnal fever and joint pains, commencing about 4 o'clock every afternoon. A look at him disclosed a typical macular syphilide over his trunk. As he had been under the physician's regular observation for his gonorrhea, it was all the more remarkable that there had been no sign nor history of primary lesion. (The patient since informed me that while under treatment for the gonorrhea the physician was accustomed to take the sounds directly from the instrument cabinet to the urethra without sterilizing hands, penis, urethra or sounds. Thus the possibility of intraurethral chancre could not be excluded, in fact was made very reasonable.) I concurred in the diagnosis of syphilis.

Treatment.—The patient's course since then has been devious. Rigorous anti-luetic treatment was instituted and carried out. He returned to his home in San Francisco in a few months, and went under the care of Dr. H. B. Reynolds.

Subsequent History.—One year later I was with the patient at Lake Tahoe, whither he had gone to rest from rigorous mercurial treatment and to seek climatic relief from the intense headaches with which he had become afflicted. While occupying a seat one day he became suddenly completely paraphasic, and on attempting to walk had a staggering gait. He was removed to San Francisco at once, and there in consultation with Drs. Herbert Moffitt, E. C. Sewell and H. B. Reynolds, it was agreed after extended and thorough examination that he probably had a luetic meningitis, though the sudden onset spoke for intracranial arterial disease. (The symptoms completely disappeared before the patient's arrival in San Francisco, an interval of twenty-four hours.)

For one year following, the patient was bed-ridden in a hospital for what was actually a profound psychasthenia with many hysterical features. He was obsessed with phobias, was neurotic in the extreme, and insisted on having an attendant constantly with him. His physical symptoms were protean, headaches, nausea, diarrheas of violent nature, universal pains, in fact the whole gamut of possibilities.

At the end of the year I returned to San Francisco and found him just about on his feet again. (This was two years ago.) In a few months he was approximately a normal individual, physically and mentally, was back at his tennis and planning to finish his law course at Columbia University.

Six months ago I was called to see the patient. He had a violent diarrhea, a very high temperature (103.5) and a dicrotic pulse; no enlarged spleen nor rose spots. After three days in bed with high fever he became well over night, the temperature falling by crisis.

Present Illness.—Four months ago the patient called me at 3 a. m. While indulging in sexual intercourse a few hours previously he suddenly felt as though some insect with a sharp mandible had bitten him on the left side of his scrotum. On arriving home he found the skin of that side of the scrotum quite red; he put on at once Pond's extract and camphor, but the itching became intense and large bullæ formed. I saw him in a few hours and diagnosed a dermatitis from the irritants applied. The skin of the left side of the scrotum was swollen and red and bore large vesicles containing seropurulent fluid. Under or in spite of treatment the condition subsided in about a week, and I was extremely puzzled as to what the initial trouble had been.

A few weeks later, while lying in bed, he experienced the identical sensation in the scrotum and foreskin and sent for me. I found the entire scrotum and foreskin enlarged to elephantine size, red, edematous, but no lesions of any kind. Frightful itching was present. Antipruritics and purges were given, and the condition subsided in a day. The testicles themselves could be made out and were normal.

Since then the patient has had three attacks, all similar in their feature to the second attack, i. e., with no vesicular formation. Parasitic disease was excluded, and it was palpable in the attacks following the first that we were dealing with an angioneurotic edema.

A suggestive feature in the case is that shortly before the onset of these attacks, the patient had gone through a typhoid-like seizure of short duration and subsiding suddenly. Could not this case in its latter features belong to that growing field of clinical entity, the erythemas and purpuras with visceral crises? If so, what relation, if any, has it to the luetic infection, or better still, did he ever have lues?

To settle these questions would require a more detailed history, for abundant as the above data are, they represent but a small portion of those at hand. The angioneurotic edema is the main reason for the publication of the case. Its general clinical aspects, however, assume a remarkable interest for those in touch with the patient.

943 Van Ness Ave.

CASE OF LEFT SCROTAL HERNIA CONTAINING THE CECUM AND APPENDIX.

J. CLARKE LOGAN, M.D.
PITTSBURG.

The following case is reported because of the comparative rarity of the anatomic findings, beyond which it presented no points of special interest.

History.—Patient, aged 3 years, a twin and a 7 months child. The parents informed me that the hernia was present at birth, but it is fairly reasonable to suppose that it may have appeared soon after birth. They also stated that the hernia varied in size, but never disappeared entirely. The child was well nourished and apparently normal, except that it had never walked, and in the recumbent position had developed eversion of both legs to practically 90 degrees.

Examination.—The left side of the scrotum was filled with a mass the size of a lemon, a part of which was easily reduced, with audible signs of gas. I was not, however, able to accomplish complete reduction, either at that time or later, under anesthesia, and as the remaining mass felt doughy, I diagnosed a hernia of the small bowel and omentum.

Operation.—On opening the sac the small bowel, which was thought to be the ileum, was found uppermost. On attempting to draw this up from the bottom of the scrotum, some resistance was encountered, but after a little perseverance the adhesions gave way, and the entire cecum and appendix presented, and the underlying loop of gut proved to be part of the ascending colon. The cecum was thick and friable, and tore on attempted reduction, which was very difficult, necessitating one suture. The cecum and appendix were very much congested. The appendix measured 7 cm. in length and 8 mm. in diameter after three days' hardening in alcohol.

Owing to the length of time taken by the appendectomy, and the reduction of the thick-walled, friable cecum, it was not deemed wise to subject the child to farther examination at the time, and the herniotomy was completed in the usual manner. Subsequent examinations, however, revealed nothing abnormal and the child made an uninterrupted recovery.

FOREIGN BODY REMOVED FROM RIGHT BRONCHUS BY LOW TRACHEOSCOPY.

RICHARD H. JOHNSTON, M.D.
BALTIMORE.

History.—March 6, I was hastily called to see Mary P., aged 10 years, who for some time had suffered from laryngeal dyspnea, which had gradually increased in severity until radical measures were necessary. She was taken to a laryngologist who promptly made a diagnosis and inserted a No. 3 hard rubber tracheotomy tube into the trachea to give better breathing space. He dilated the stenosis successfully so that the patient was much improved.

At 2 o'clock in the afternoon March 6 the tube was removed, cleaned and replaced. Two hours later, while eating cake, she had a sudden attack of coughing and cyanosis which passed off in a few moments. A little later, the attack was repeated. The nurse, much alarmed, immediately summoned a physician, who attempted to remove the tube. He succeeded in getting only the outside plate; the tube was missing. In the absence of the attending laryngologist I was asked to see the patient.

Examination.—She was lying on her back, breathing with some difficulty and coughing incessantly. Finding her in no immediate danger, I turned my attention to the plate, and found that in some way the tube had become unscrewed until it was almost off the plate. During the acts of swallowing the cake it had evidently dropped into the trachea, giving rise to the sudden cough and cyanosis. Immediate operation for the removal of the tube was advised.

Operation.—The patient was chloroformed, with the mask over the nose and mouth, and the tracheotomy wound was cleaned and enlarged for half an inch. Jackson's 5 mm. tracheoscope was passed through the tracheal wound, the mucous membrane touched with cocain and adrenalin, blood and secretion wiped away and careful search made for the missing tube. After we had reached almost to the bifurcation, the dark edge of the foreign body could be seen. The tube had worked its way down into the right bronchus while the upper end was in the trachea close to the bifurcation. With each pulsation of the heart the dark edge moved from side to side. Forceps were introduced through the tracheoscope, the edge of the tube was seized, and tube and forceps were pulled out together through the tracheal wound. The entire operation lasted about fifteen minutes. The patient was nauseated the next day, but with this exception recovery was uneventful. There was not the slightest rise of temperature.

919 North Charles Street.

Staining of the Negri Bodies.—L. Frothingham, in the *American Journal of Public Hygiene*, states that the stain should be made freshly every day, as the Negri bodies fail to take up the red readily after the solution is from six to eight hours old. The Negri bodies stain from a pale pink to a purplish red, and often contain numerous minute dark blue dots. The cells stain more or less blue, the red blood corpuscles not at all or are yellowish in color, rarely pinkish. He calls attention to the fact that not infrequently the Negri bodies in the Purkinje cells stain a very pale pink, while those in impressions of the cornu Ammonis, made on the same slide and stained at the same time, are deeply stained. He has observed this same peculiarity in the sections.

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SATURDAY, MAY 16, 1908.

THE CHEMISTRY OF THE MUMMIES.

The influence of time on matter has always a rare fascination for the scientific mind, most particularly so when it concerns the products of human endeavors. Egypt has furnished us with our most valuable information on this subject, and recently the Government School of Medicine at Cairo has been putting out some most intensely interesting reports concerning observations on the anatomic conditions of mummies from different periods.

We have found especially absorbing a study of the biologic chemistry of mummies by W. A. Schmidt,[1] in which the most modern methods of analysis have been applied to the oldest human materials that now exist. Mummies of different ages were examined, some dating back to prehistoric times, before even the Egyptians began the practice of embalming, some 6,000 years ago. Yet even in these most ancient of materials the original composition of the tissue elements has been so well preserved that cholesterin, fatty acids, neutral fats, and even unaltered, heat coagulable proteins still remain in condition to be identified by chemical tests, although most of the protein has been transformed into proteoses and other decomposition products. A very large proportion of all mummy tissues consists of free fatty acids, and the fact that organs which do not contain much fat, such as the spleen and lungs, were found in these mummies to contain from 30 to 60 per cent. of fatty acids, seems to Schmidt to be unequivocal evidence that these fatty materials must come from proteins, constituting an example of true fatty degeneration of proteins. He is apparently unaware of Zillner's studies[2] of the corresponding changes in the process of adipocere formation, which showed that during postmortem disintegration the fatty matters diffuse away from their normal sites and infiltrate tissues where fat does not ordinarily exist, hence destroying the value of such evidence as that of Schmidt that tissue proteins sometimes are transformed into fat.

Although these mummy proteins retain their chief chemical characteristics they do not react to the precipitin test for human proteins, showing that the constituent of tissues that gives the precipitin reaction with immune serum is more labile than are the ordinary chemical characters. However, it has recently been reported by Friedenthal[3] that animals immunized to elephant's blood produce precipitins that react with the blood obtained from a Siberian mammoth which had remained frozen in the ground since the diluvial period; this indicates how much better preservation is afforded by continuous freezing than by drying. Schmidt was unable to secure the usual reactions for hematin even with the contents of the blood vessels of the mummies, and he believes that the positive findings reported previously are erroneous; even in the well-preserved tissues of the mammoth, blood could not be demonstrated with the spectroscope. In a review of Schmidt's article Halliburton[4] recalls the fact that the presence of chitin, which is a characteristic constituent of the shells of crustaceans, has been demonstrated in the carapace of a fossil eurypterid.

The mystery of Egyptian embalming which has been made to fascinate us in many novels and tales of "popular science," is ruthlessly demolished by our friend, the German scientist. Their methods as disclosed by ancient papyri and modern science were substantially as follows:

The brain was dug out through the nose with a hook-like instrument, and all the viscera except the heart were removed after opening the abdomen; the body thus deprived of its most easily decomposed parts was left in a bath for about two months, the constituents of this bath being nothing more remarkable or mysterious than sodium chlorid. In other words, the body was well pickled in brine, after which the cavities were washed out with palm wine and stuffed with aromatic substances and with cloth or clay to preserve the shape. After the body had been thoroughly dried by exposure to air, it was then enveloped in bandages, supplemented by gums or resinous materials. Arsenic, mercury and other mineral preservatives are never found in Egyptian mummies.

According to Schmidt, the real reason for the success of the Egyptian embalmers did not lie in their methods, but in the Egyptian climate, which caused a rapid and permanent desiccation of the pickled bodies, while the external bandages protected them from such extraneous destroyers as worms and beetles. As a matter of fact the bodies of the dead in prehistoric Egyptian periods were not protected by bandages, etc., but were merely buried in the dry sand, and yet now after 6,000 years they are found still fairly well preserved.

At another period the process of embalming consisted only in the pickling and drying, without the use of bandages, yet these simple methods have produced excellently preserved mummies. And thus vanishes another mystery of the ancients! A "lost art" has been rediscovered.

1. Ztschr. f. allg. Physiol., 1907, vii, 369.
2. Vierteljahrschr. f. gericht Med., 1882, xlii, 1.
3. Deutsche med. Wchschr., 1904, p. 901.
4. Nature, March 19, 1908, p. 465.

COMMENCEMENT ORATIONS.

During next month scores of commencement orations will be delivered to graduating classes at medical schools. As a rule the men who are selected to deliver such orations are extremely busy with the practical side of medicine and so can not devote the time to making their addresses all that they would wish. An excellent opportunity is provided in these addresses for impressing on the minds of those who are about to take up the practice of medicine some of the condensed wisdom gleaned from experience by our medical forefathers, who had learned many things that can not be obtained from books nor secured by attendance at lectures or laboratory exercises. Advice, of course, is easy to give and hard to take. The old saying that experience is a dear teacher, but every one must learn by his own experience, still remains absolutely true. Aphorisms that are the results of others' experience are not likely to benefit the young as much as might be desired, yet some of the expressions that may readily be borrowed from our colleagues of the olden-time, may, if heard at so impressive a moment as the graduation exercises, come back with redoubled force at moments of doubt and difficulty in the future.

There are few books so full of suggestion for one who wants a stimulus in this regard as dear old Dr. John Brown's "Spare Hours." The original British edition was published under the name of *Horæ Subsecivæ*, but the American edition[1] rejoices in the translated title. The third series contains a group of articles, nearly all on medical subjects, beginning with Dr. Brown's well-known essay on Locke and Sydenham, the great English philosopher, and the English Hippocrates, who were close personal friends. Those who know Dr. Brown only through "Rab and His Friends" and perhaps "Marjorie Fleming" have a pleasure before them if they dip into "Spare Hours." We know no book from which so much that is suggestive, so much that is of the rarest value, so much that contains the condensed experience of many of our English medical forefathers may be obtained so readily or so pleasantly as from this. Those who feel the preparation of an oration for commencement day as an incubus will have their burden lightened by a few hours of pleasant reading in this charming classic of medical biography and its borderland.

The motto of the book is the famous lines from Cowper, than which nothing could be more appropriate for a commencement day theme.

> "Knowledge and Wisdom, far from being one,
> Have oft-times no connection. Knowledge dwells
> In heads replete with thoughts of other men;
> Wisdom in minds attentive to their own.
> Knowledge is proud, that he has learnt so much;
> Wisdom is humble, that he knows no more."

The preface contains many hints on the value of medical experience as compared to the value of medical knowledge. It closes with quotations from Dr. Latham's "Clinical Medicine," in which he says: "In our day there is little fear that students will be spoiled by the recommendation of their instructors to be content with a scanty knowledge and trust to their own sagacity for the rest. The fear is of another kind, and it is well-grounded, namely, that many men of the best abilities and good education will be deterred from prosecuting physic as a profession in consequence of the necessity indiscriminately laid on all for impossible attainments."

There are many other expressions from distinguished authorities in surgery that bring out this fact very clearly. Probably none that we know does it better than the following paragraph from Professor Syme, which occurs in his letter to Sir James Graham on the medical bill. Syme wrote:

"Medicine, throughout all its departments, is a science of observation; memory alone, however retentive, or diligently assisted by teaching, is unable to afford the qualifications for practice and it is only by digesting the facts learned, through reflection, comparison and personal research, that they can be appropriated with improving effect; but when the mind is loaded with the minutiæ of elementary medical and collateral study, it is incapable of the intense and devoted attention essential to attaining any approach to excellence in practical medicine and surgery. It has, accordingly, always appeared to me, that the character of medical men depends less on what passes during the period of studentship than on the mode in which they spend the next years, when, their trials and examinations being over, the whole strength of a young and disciplined intellect may be preparing itself for the business of life."

It must not be thought, however, that the suggestive material for medical addresses afforded by these "Spare Hours" may be obtained only from the quotations which Dr. Brown has collected so well. He himself was a profound thinker on medical subjects and especially on all that related to practical medicine and medical education. Though he wrote more than half a century ago there are many expressions in his article on Locke and Sydenham that deserve cordial consideration at the present moment. For instance:

"The great problem in the education of young men for the practice of medicine in our times, is to know how to make the infinity of particulars, the prodigious treasures of mere science, available for practice—how the art may keep pace with, and take the maximum of good out of the science." And a little further on he adds: "Now, everything, at least most, is done in public, in classes; and it is necessarily with the names of things rather than the things themselves, or their management, that the young men have chiefly to do. The memory is exercised more than the senses or the judg-

1. Houghton, Mifflin & Co., Boston

ment; and when the examination comes as a matter of course, the student turns back to his teacher as much as possible of what he has received from him and as much as possible in his very words."

It would be impossible, however, by a few quotations to give more than a faint idea of the valuable and suggestive thoughts that are contained in this single volume.

THE REGISTRATION OF BIRTHS.

Of all the advances made in medicine during recent decades, no step has been more fraught with benefit to the common weal than the birth of a science of public health. The first step in this direction, and one that was absolutely essential to its development, was the institution of what is known as vital statistics, i. e., an efficient official registration of births and deaths, with the causes of the latter, and of infectious diseases. The science of epidemiology, also, itself a subordinate part of the science of public health, took its rise with that of vital statistics. In this country, until recently, very little effort was made, save in large cities, to establish an official statistical record. By the growth since 1895 of what is known as the registration area of the United States, the vital statistics now cover a total of 48.7 per cent. of the entire population, so far as mortality returns are concerned. But in the "Report of Mortality Statistics," for 1906, of the Departments of Commerce and Labor, Bureau of the Census, there is to be noted an inquiry as to why there is no registration area for births. The bureau, with a view to answering this question, sent out an inquiry to all states and to all cities of 50,000 population or over in 1900, concerning the status of the registration of births therein. After eliminating replies which for one reason or another were inadequate, the reasons for the inadequacy of birth returns assigned by registration officials in 64 state or city areas show, on analysis, that in no less than 41 the inadequacy is attributed to the "negligence," "unwillingness," "failure," "indifference," etc., of physicians. In one case this attitude of the physicians is emphasized by the statement, "no difficulty from midwives, but considerable from physicians." Occasionally a reason is given for the laxity of the physicians, such as an objection to do clerical work for nothing, or the fact that the physician withholds the report in order to obtain the name, and ultimately forgets it altogether.

The American Medical Association, at the New Orleans session in 1903, in a series of resolutions, urged on local medical societies the important duty of cooperating in the endeavor to obtain satisfactory registration laws in states that do not yet possess them, as well as on physicians individually to endeavor to promote the accuracy and value of such statistics wherever they are collected. The question of uniform laws for the regulation of vital statistics was discussed at the Conference on Medical Legislation held in Chicago, in December, 1907, at which a model bill was presented, which is receiving the consideration of the National Census Bureau, the American Public Health Association, the American Statistical Association, and the Conference on Uniform Laws of the American Bar Association. This bill will be presented at a session of the Section on Hygiene and Public Health at the session of the American Medical Association next month. The committee appointed by the House of Delegates last year to consider this subject will also present its report at the coming session. But from what has been quoted above it is clear that physicians as a body are not sufficiently alive to the importance of vital statistics for the advancement of medical science, otherwise we can hardly think that indifference or the absence of a fee would cause them to neglect any part of so important a public obligation. The person in whom the duty of reporting a birth primarily and morally inheres is, of course, the parent. The assistance of the physician is sought by the state as a reinforcing element only, since he is, as it were, a responsible and permanent link between the parents and the central authorities.

Notification, then, devolves on him as a public duty; for it must not be forgotten that the physician receives valuable privileges from the state, and every privilege invariably involves a corresponding obligation. It would seem, however, that the special assistance he can render to the state is fulfilled when he has advised the authorities of the fact of the birth, at a given time and place, of a male or female child, a plural birth, etc., which information should be given on the day of its occurrence; further prosecution of the inquiry is the part of the authorities. If the physician's duties are to be carried to the extent of making him a registration officer of the law, then it would seem only fair that he should be paid a fee appropriate for his service. But in any event, and until such measures can be taken as shall put this duty on an equitable basis, he should surely not grudge some little trouble in the interests of scientific medicine itself, to aid in the development of so important a part of medical science.

HYDROPHOBIA.

It is reported that epidemic rabies exists at present in one or more states of the Union, and there are probably few states that have not a few cases of this disease among dogs at all times, while instances of human infection are not unknown in any section. In this respect the United States compares unfavorably with Europe. The total annual mortality from hydrophobia in this country is from 100 to 300. In England the muzzling order has been followed by a complete disappearance of the disease. According to Dr. Hart,[1] the disease among dogs is increasing. In and about the city

1. Hart, G. H.: Rabies and Its Increasing Prevalence, Bureau of Animal Industry, Washington, D. C.

of Washington its frequency during the last ten months has been alarming; in 1907 a positive diagnosis of rabies was made in 44 cases, and of these 33 were found in the District of Columbia or its immediate neighborhood. These 33 animals bit 16 people, 46 dogs, 2 horses and 2 cows. Nor is the diseases less common in other parts of the country; Dr. Hart well observes that the preventive measures at present being taken are altogether inadequate.

There is an unfortunate tendency on the part of some to deprecate the importance of rabies and hydrophobia on account of their rarity, while others have been led by the frequent mistakes in diagnosis to deny the existence of these affections altogether. No doubt in consequence of popular excitement and ignorance of the real symptoms of the disease not a few animals—and possibly some valuable ones—are unnecessarily destroyed during the heated term. A homeless mongrel, for instance, is worried and kicked about by a gang of young toughs; this with the heat, the dust, the noise, the starvation and what not else, sends the poor beast barking through the streets. The development of a "mad dog scare" is then accomplished when someone has been bitten by this frightened creature, for which viciousness he is duly shot or battered to death. Even dogs which run amuck are not necessarily rabid. Still, notwithstanding the experience of some who have never met with the disease in the course of an extensive acquaintance with dogs, it must be admitted that rabies exists although rare. The fact that the agents of the Society for the Prevention of Cruelty to Animals have been bitten some 15,000 times without the development of a single case of hydrophobia is probably due to their ability to distinguish between a peevish dog and a rabid one. Under the influence of fear of the consequences persons bitten by dogs which are not rabid are apt to develop a pseudohydrophobia or lyssophobia which, although it is not fatal, is likely to be the cause of much suffering. For the prevention of this condition, if for no other reason, it is imperative that the true status of every dog which has bitten a human being should be determined.

It is computed that, even from the bites of rabid animals, but 16 per cent. of the victims at most develop true hydrophobia. The immunity of the others is attributable largely to the protection afforded by clothing, to the slight extent of some of the wounds, and especially to the fact that a nerve has not been injured. Nevertheless, the disease is so dreadful and (when it has passed the incubation period) so invariably fatal, that common sense precautions against it are essential.

Immediately on the receipt of a bite from a suspected animal the local treatment familiar to physicians should be instituted. The older method of sucking the wound has been objected to on account of danger of infection to the operator and possibly to the patient, but we see no objection to the application of suction by means of a mechanical suction apparatus. Even after twenty-four hours the wound should be cauterized after excision of the ragged edges.

The procedure to be followed in case of the suspected animal is nearly as important and apparently not so well understood. Boards of health should have authority to require that all animals suspected of being rabid should on reasonable evidence be turned over to them for observation, and they should provide a place where such animals can be kept under observation until death or recovery. On the death of the animal its head should be sent at once to a competent pathologist or to the nearest health department. Or its skull may be broken open, the brain removed and placed in a jar containing alcohol, half and half, and the whole may be sent to the laboratory, where within five minutes the presence of characteristic lesions may be demonstrated. A rabid animal should not be killed if it is practicable to confine it, but should be allowed to die a natural death. The development of the disease may make the diagnosis certain in cases in which if the animal were killed immediately after the bite even microscopic examination may be futile. The presence of the Negri bodies is to be regarded as positive evidence of the disease, but their absence does not necessarily show its absence. When the occurrence of the disease in the dog has been demonstrated the Pasteur treatment should at once be instituted for those bitten.

COLD-STORAGE EDITORIALS FOR MEDICAL STUDENTS.

In their attempt to stem the tide of public opinion against the use of "patent medicines" and to discredit, so far as possible, the work done by Samuel Hopkins Adams in the "Great American Fraud" series, the nostrum mongers seem to have reached the end of their literary tether. Medical students throughout the country are receiving for their instruction and delectation a reprint, in pamphlet form, of an "editorial" (save the mark!) from a long since defunct "medical journal." The article is entitled "Collier's Methods Exposed" and consists of an attempted refutation of the various counts made by Mr. Adams against headache powders, cephalgine, antikamnia, etc. Inasmuch as fully three times as much space is devoted to a "refutation" of the charges against antikamnia as is given to any other nostrum mentioned, one questions whether the Proprietary Association of America or the Antikamnia Chemical Company is paying for these reprints. The article in question was originally published in the *St. Louis Medical and Surgical Journal*. This publication, while posing as a medical journal, warmly espoused the cause of the "patent medicine" men, "performing the unsavory work of the Proprietary Association with the Proprietary Association's approved methods of falsehood and fraud." It died, presumably from a lack of reputable readers, in July, 1906, the reprint under discussion being its agonal editorial spasm. That the "editorial" is of the vintage of '06 is a fact that is carefully concealed, however, in the current reprint and the space on the title page which

in the original contained the date, is in the reprint (otherwise an exact reproduction) occupied by the words "St. Louis, Mo." It is possibly hypercritical to call attention to such trivial deceptions as these on the part of a firm or organization whose very existence rests on fraud and misrepresentation. One wonders, however, if it is possible that the awakening of the public conscience to the nostrum evil has made it difficult to find medical editors who are willing to stultify themselves by taking up cudgels in behalf of nostrums. Has it come to the pass where cold-storage editorials of questionable antecedents have to be pressed into service to bolster up a losing cause? To medical students, whose acquaintance with medical journalism is necessarily limited, the name of the *St. Louis Medical and Surgical Journal* may mean much or little. To physicians of maturer years and fuller experience the connection of this journal with any article would be that article's greatest condemnation.

GLANDERS IN MAN.

Dr. Bevan's suggestion in his article in this issue that chronic glanders may be a frequently unrecognized disease in man is worthy of attention. Most cases, even those following an acute course, simulate other disorders at the outset, and usually a correct diagnosis is possible only after some days. Even then any but a characteristically developed case might escape recognition, and such cases are hardly the rule, especially in the more chronic forms. It is easy to understand, therefore, how an incorrect diagnosis is possible even late in the course of the disease. Glanders was recognized for centuries as a disease of the horse, and must have often occurred in the human subject under the insanitary conditions existing during the middle ages. At present it is safe to say that few general practitioners are habitually alert to detect it, and there are consequently many chances for an incorrect diagnosis. The importance of the subject, easily underestimated at a casual glance, may be understood by considering the comparative frequency of the disease in horses, the susceptibility of some other domestic animals to the infection, and, above all, its virulence in man. It is reassuring, however, to know that the prognosis may not be absolutely bad in the chronic cases. Moreover, we have learned from experience with some other disorders that the more prevalent the disease the more numerous the cures. Perhaps this may be true in the case of glanders as well. Glanders is not a pleasant subject for laboratory investigation, but any facts as to its curative treatment or the production of immunity will be worth learning. We have not yet reached the "horseless age," and until we do glanders is a real peril to the human species—possibly not so rare a one as we have supposed.

AN INEXPENSIVE DAY CAMP FOR CONSUMPTIVES.

The Mattapan Day Camp,[1] opened by the Boston Association for the Relief and Control of Tuberculosis on June 5, 1907, and closed on Feb. 1, 1908, is remarkable as showing what can be done with meager equipment. It consisted of a lean-to kitchen with pantry, having a laundry and wood and coal room attached, a dining tent, and five small tents, of which two were used as rest tents for the more ailing patients, one was a women's dressing room, another was occupied by the caretaker and the fifth was used as a storage room. There was also a shack, 10 by 18 feet, for the matron's use and for medical quarters. The laboratory consisted of a table with a shelf holding an ordinary paper pail with 6 feet of rubber tubing attached, and an ordinary iron pail for a sink. A sputum incinerator was constructed from a cast-iron ash barrel with draft holes at the bottom, in which the paper bags and crêpe-paper napkins for sputum were burned. There were as few rules as possible, the most important one being the prohibition of expectoration on the ground. The staff consisted of a physician in charge, two assistants, a visiting throat specialist, a graduate nurse matron and an assistant nurse. There were in addition a cook, two helpers, and two patients as caretakers. The patients came to the camp at 9:30 a. m., spent the day in reclining chairs, at recreation or light work, and left in the evening. The capacity of the camp was 75 a day; its cost, 51 cents a day for each patient. A further valuable measure was a routine examination by the visiting nurse of the home condition of the patients and the state of other members of their families. The value of such a camp as an educational institution can hardly be overrated, and the comparatively small expense, both in its creation and up-keep, makes it possible everywhere.

1. Townsend, McCarthy and Houghton: Boston Med. and Surg. Jour., April 30, 1908, p. 575.

THE FITZ FESTSCHRIFT.

The custom, which, as its name suggests, originated in Germany, of publishing on some anniversary of an honored master a collection of contributions to science by his pupils and admirers, has found an increasing appreciation in this country. The *Boston Medical and Surgical Journal* for May 7 forms such a *Festschrift* to Reginald Heber Fitz, M.D., LL.D., Hersey professor of the theory and practice of physic in Harvard University, in honor of his sixty-fifth birthday. Dr. Fitz's connection with the development of medical education, and the general soundness and conservative judgment of his own studies, are too well known, and, indeed, have been too widely honored, both in this country and abroad, to need repetition here. Besides a biographical notice of Dr. Fitz, accompanied by an excellent portrait, the volume contains twenty-five contributions of merit from his former house pupils at the Massachusetts General Hospital and assistants in the department of theory and practice of physic, Harvard University, and a list of Dr. Fitz's contributions to medical literature. It is not necessary here to refer further to the articles, as they will be enumerated, and in some cases abstracted, under Current Literature in due course. The *Festschrift* is a credit to all concerned. The illustrations are particularly commendable. They comprise thirteen full-page plates of photomicrographs illustrating articles on multiple myeloma, primary sarcoma of pleura, and the origin of urinary casts.

Medical News

CALIFORNIA.

State Society Meeting.—At the thirty-eighth annual meeting of the Medical Society of the State of California held in San Diego, April 21-23, Dr. Wesley W. Beckett, Los Angeles, was elected president; Drs. Fred Baker, San Diego, and Edward G. McConnell, San Francisco, vice-presidents; and Dr. Philip Mills Jones, secretary-treasurer (reelected). The society took a most determined stand for pure food and improved sanitary conditions for municipalities and cities.

Communicable Diseases.—There are 5 cases of smallpox in Sonora, all of mild type.——The Vallejo public schools and library have been closed on account of the prevalence of smallpox. At the pesthouse and detention camp there are now 17 cases.——Two cases of smallpox of mild type are reported in East San José.——The public schools of Lodi have been closed on account of the prevalence of scarlet fever.——Diphtheria is reported to be epidemic in the Southern California Hospital for the Insane, San Bernardino, where 60 cases have appeared among attendants and patients, with five deaths.

Personal.—Dr. Frank L. Adams and family, Oakland, have returned, after a year abroad.——Drs. Joseph D. Davidson and J. Lawrence Maupin have succeeded Drs. William T. Burks and Asbury N. Loper, resigned, as members of the Fresno Board of Health. Dr. Asbury N. Loper has been appointed health officer of Fresno, vice Dr. Thomas M. Hayden, resigned.——Drs. Charles L. Coleman, San Leandro, and Samuel H. Buteau, Oakland, are making a tour of inspection of hospitals of the East.——Drs. Joseph F. Tapley, Nelson C. Bissell and George W. Stratton have resigned as members of the Board of Health of Marysville.——Dr. Elmer E. Stone, medical superintendent of the Napa State Hospital, is making an inspection of the insane hospitals of the East, to study the methods in force there in the care and treatment of the acute insane.——Dr. Lucius J. Huff has been appointed assistant police surgeon of Los Angeles, vice Dr. Joseph B. Tanner, deceased.——Dr. and Mrs. Horatio S. McGavren, Sacramento, have returned after a year abroad.——Dr. Constante A. Nahl, Hobart Mills, who has been ill for a long time, has recovered and resumed practice.

ILLINOIS.

Cornerstone Laid.—At a meeting of the Canton Physician's Club, May 1, it was decided to accept the invitation of the Misses Graham to take charge of the program in connection with the laying of the cornerstone of the new Graham Hospital. The cornerstone was formally laid May 6.

Appropriations for State Board.—Among the few bills passed by the House of Representatives last week, was one appropriating to the State Board of Health, $3,000 for special research into the cause and prevention of tuberculosis, and a second, appropriating $1,000 for the treatment and care of indigent persons afflicted with hydrophobia. This latter was introduced at the instance of the State Board of Health.

Chicago.

Annex Ready.—The annex to Mercy Hospital recently completed at a cost of $250,000 was taken in use May 7 by the hospital and will be formally dedicated June 1. The new building is a five-story, fire-proof structure, containing space for the administration offices, reception and waiting rooms, and 90 private rooms for patients.

Medical Visitors.—Prof. August Martin, Berlin, Germany, who visited Chicago this week, delivered an address before a joint meeting of the Chicago Medical Society and Chicago Gynecological Society, May 13, and held clinics at several hospitals.——Mr. B. G. A. Moynihan, chief surgeon of the Leeds (England) Infirmary, delivered an address at a special meeting of the Chicago Medical Society, May 14.

New Hospital Rules Favored.—The ordinance to regulate hospitals drafted by Dr. George Hunt of the Health Department has been recommended for passage by the council committee on health. The proposed ordinance provides for an advisory board of three experts whose duties shall be to regulate hospitals, provide requirements for new institutions and otherwise supervise places where the sick are cared for.

Personal.—Dr. Otto T. Freer has been elected a member of the Royal Society of Medicine of London.——Dr. Thomas A. Woodruff has been elected president of the Calumet Club.——Dr. Gustav Kolischer was operated on May 2 for appendicitis and is reported to be doing well.——Dr. Thomas J. Roberson, who has been critically ill with pneumonia, is now reported to be convalescent.——Dr. Edward F. Garraghan has returned after a five-weeks' trip to the Pacific Coast.

Deaths of the Week.—During the week ended May 9, 531 deaths were reported, 5 fewer than for the preceding week, and 186 fewer than for the corresponding week of 1907, the respective annual death rates per 1,000 being 12.78, 12.90 and 17.74. Pneumonia and consumption, each caused 77 deaths; heart diseases, 48; cancer and violence (including suicide) each 26; acute intestinal diseases 25; nephritis, 10; nervous diseases, 20; measles, 10; diphtheria, 7; influenza, 5; typhoid fever, 4, and scarlet fever and whooping cough, each 2.

Contagious Disease Situation.—There were reported to the Health Department during the week ended May 9, 576 cases of contagious disease distributed as follows: Measles, 337; scarlet fever, 56; diphtheria, 46; tuberculosis, 38; typhoid fever, 35; whooping cough, 26; chickenpox, 20, and smallpox, 4. The improvement over the corresponding week of last year is most marked in regard to diphtheria and scarlet fever in which there were 20 and 43 fewer cases this year respectively. A localized epidemic of typhoid fever is reported in West Pullman, due in all probability to contaminated milk, supplied from one dairy in Morgan Park, outside of the city limits.

Advertising Physician Sued.—Acting on the request of the State Board of Health, State Prosecuting Attorney White has brought suit against Dr. F. T. Riley, 210 State street, for improper advertising of medical treatment. Dr. Riley is said to be the successor of the well-known doctors, Scott & Davis, whom the State Board of Health forced to discontinue operations. It is the intention of the State Board of Health to prosecute other physicians who advertise in violation of the city ordinance enacted a few years ago, which prohibits advertising "remedies or alleged cures . . . for the prevention or treatment of uterine diseases, or of diseases peculiar to females, or of venereal diseases, or of diseases of the genital organs, or of nervous debility, impotence, sterility or barrenness, or of gonorrhea, gleet, stricture, syphilis or affections of the prostate gland."

INDIANA.

New Building for Epileptic Village.—Plans have been received for a custodial building to be erected for the Indiana Village of Epileptics, New Castle, during the coming summer. The new building will cost about $20,000, will be a brick structure, two stories high and will accommodate 25 patients.

Communicable Diseases.—Two rooms of Hibbard school at Richmond have been closed on account of the prevalence of smallpox.——Several cases of smallpox are reported at Red Bridge.——Smallpox has developed in Green Township, Noble County, where the public schools have been closed.——Thirty-two cases of smallpox had been reported to the city board of health, Indianapolis, in the first three weeks of April.——Measles and whooping cough are reported to be epidemic at Walton.——There are about 50 cases of measles in and around Leesburg.——Measles is reported from Earlham College, Richmond.

Personal.—Dr. C. A. DeLong has been elected secretary of the Gary Medical Society, vice Dr. J. H. F. Prentiss, resigned.——Dr. Noble P. Howard, Greenfield, is reported to be seriously ill.——The house of Dr. R. S. Wilson, Bern, was destroyed by fire April 21, with a loss of about $2,500.——Dr. and Mrs. Walker Schell, Terre Haute, have returned after nine months in Europe.——Dr. Mary D. Hudson, Evansville, sailed for London last week.——Dr. Samuel R. White, Laud, was thrown from his automobile April 24 and suffered a sprain of the shoulder.——Dr. William F. Houk, Crown Point, has been appointed local surgeon of the Pennsylvania System, vice Dr. John K. Blackstone, resigned.

IOWA.

Hospital Corps Formed.—A hospital corps has been formed in Iowa City for the Fifty-fourth Infantry, N. G. Iowa, under the command of Capt. Charles S. Grant, to supersede the corps which the U. S. Army officer inspecting the command recommended to be mustered out at Davenport. All the members are students in the University of Iowa College of Medicine.

Life Insurance Fees.—At a recent meeting of the Dubuque County Medical Society the following action was taken in regard to life and accident insurance company fee bills, more specifically for services to those injured by accident:

Resolved, That the society does not feel called on to even consider the items of a fee bill originally outside the profession; that it is not the province of any person or company to fix rates at which self-respecting physicians and surgeons should render services; and that the society considers it grossly unprofessional for any member to sign or to enter into any such agreement.

Smallpox.—Four new cases of smallpox are reported from Davenport.——An epidemic of smallpox has closed the Osage public schools, churches, library and all buildings where public gatherings are held.——In the case of Dr. Samuel C. Kirby, Grand Junction, which has been pending in the district court of Green County for seven years, and in which the plaintiff brought suit against the mayor of the city for $5,000, claiming that although he was not sick with smallpox, he was held in quarantine for that disease; the court has ordered the jury to return a verdict in favor of the defendant.——Five new cases of smallpox have appeared in the Haverhill neighborhood.——Three cases of smallpox are reported in a shirt factory in Council Bluffs.

Personal.—Dr. Edwin E. Harris, Tabor, is planning to go abroad soon for a year of study.——Dr. Grant J. Ross, Sioux City, has been appointed examining physician to the board of commissioners for the insane of Woodbury County, vice Dr. Frank J. Murphy.——Dr. Charles S. McCarty, Hawarden, was thrown from his buggy in a runaway accident April 3, breaking his nose and dislocating his shoulder.——Dr. George L. Day, Lone Tree, has been appointed health officer for the town and for Fremont Township.——Dr. Wilbert E. Harriman, Ames, who has been seriously ill at his father's home in Hampton, is reported to be improving.——Dr. Ambrose E. Wanamaker, Hamburg, has been elected secretary of the Fremont County Medical Society, vice Edwin E. Harris, Tabor. ——Dr. Robert Evans, Fort Dodge, has started for Europe.

KENTUCKY.

Professor Martin in Louisville.—Prof. August Martin, Berlin, who is visiting this country and who will attend the sessions of the American Medical Association and the American Gynecological Society, was the guest of Dr. William H. Wathen during his stay in Louisville. He received much attention from the medical profession there and operated at Dr. Wathen's clinic in the Kentucky School of Medicine Hospital and also at St. Anthony's Hospital, demonstrating his methods of conservative surgery on the female genital organs. On April 17, a banquet was given at the Seelbach in his honor.

Hospital Commission Appointed.—The mayor of Louisville has appointed a commission of physicians of the city as a preliminary step toward the building of a new hospital. The following physicians met with him April 8 and were organized into a commission to submit plans and suggestions, which may be used as working model for the architects selected to make the final plans: Drs. Joseph B. Marvin, Cuthbert Thompson, Henry Enos Tuley, H. Horace Grant, Lewis S. McMurtry, Sidney J. Meyers, Cornelius Skinner, Louis Frank, and James S. Chenoweth. The commissioners elected Dr. Marvin chairman and adjourned subject to his call.

Personal.—Dr. James A. Robertson, Fort Thomas, was stricken with cerebral hemorrhage; April 3.——Dr. Samuel H. Garvin, Louisville, physician at the Jefferson County jail, is reported to be seriously ill with sewer-gas poisoning.——Dr. F. M. Stone, Fountain Run, is reported to be dangerously ill at his home. ——Drs. William O. and David Y. Roberts, Louisville, have been appointed surgeons for the Louisville division, Louisville terminals, and South Louisville shops of the Louisville & Nashville Railroad, in addition to their present duties as surgeons of the Louisville, Cincinnati and Lexington division.——Dr. Leigh R. Gordon has returned to his home in Lexington from St. Joseph's Infirmary, Louisville, where he underwent a serious surgical operation.——Dr. Isaac A. Shirley, Winchester, has been appointed surgeon of the Mountain Central Railroad.

MARYLAND.

Personal.—Dr. Joseph R. Owens, treasurer of Maryland Agricultural College, was elected mayor of Hyattsville for the third consecutive time, May 4.——Dr. James F. H. Gorsuch, Fork, has been appointed health officer of Baltimore County, and Drs. Arthur H. Mann, Harry F. Shipley, Henry A. Naylor, Harry M. Slade, Benjamin F. Price, T. Ross Payne, R. C. Massenburg, J. T. Payne, John B. Norris, Eugene W. Heyde, William E. McClanahan, Frank H. Ruhl, Joseph B. Webster, and John W. Harrison have been appointed district health officers.——Dr. Guy Steele, Cambridge, and Charles H. Conley, Adamstown, have been appointed examining physicians for the State Tuberculosis Sanitarium, Sabillasville.

Baltimore.

Pure Milk Ordinance Signed.—The mayor signed the pure milk ordinance May 6, and it becomes effective June 1.

Hospital Incorporated.—The Italian Hospital has been incorporated in West Baltimore with a capital of $10,000. Dr. Aristide W. Giampietro is at the head of the institution.

Personal.—Drs. Charles F. Bevan and George J. Preston have been elected attending physicians, and Drs. John Ruriih and William F. Lockwood consulting physicians and Dr. Harry Friedenwald has been made ophthalmic and aural surgeon in the Nursery and Child's Hospital.——Dr. Henry C. Houck has been seriously ill with septicemia due to an operation, but is said now to be improving.——Dr. H. Warren Buckler has been appointed examining physician for the State Tuberculosis Sanitarium, Sabillasville.——Messrs. Louis Simon and Siegmund Kann have given a cottage for incipient cases of tuberculosis, as an addition to the Epstein Memorial Tuberculosis Hospital at "The Farm," Reisterstown, near Baltimore. The main building will be dedicated June 11 and will accommodate 25 patients. It is a two-story structure, and more than $12,000 a year toward its support has already been subscribed.

MASSACHUSETTS.

Personal.—Dr. Samuel H. Durgin has been re-elected a member of the Boston board of health, and the board at its organization re-elected him chairman.——Dr. Henry Ehrlich has been elected chairman by the trustees of the bath department of Boston.——Dr. W. D. Walker, Andover, has been re-elected school physician.——Dr. Charles P. Emerson, Methuen, has been appointed chief superintendent of the Clifton Springs (N. Y.) sanitarium.——While responding to a call in Charlestown recently, a relief hospital ambulance and electric car collided, throwing out three men in the ambulance, and injuring the ambulance surgeon, Dr. Atchison, who fractured three ribs.

MICHIGAN.

Legacy for Kellogg.—Charles E. Wood of Washington, D. C., has bequeathed to Dr. John H. Kellogg, Battle Creek, a sum estimated at over $1.000.000, to be used in the erection and maintenance of a sanitarium at Atlantic City, N. J.

Personal.—Dr. Orton Clark has been elected president of the board of poor and health commissioners of Kalamazoo; Dr. David J. Levy has been re-elected health officer, and Dr. Walter den Blyker, city physician.——Dr. John J. Mulheron, Detroit, has announced his permanent retirement after practicing medicine 40 years.——Dr. Luke M. Ryan has been appointed health officer of Caro.——Dr. Starr K. Church has been re-elected health officer of Marshall.——Dr. Bartlett H. McMullen, Cadillac, has been appointed division surgeon of the Ann Arbor Railway. ——Dr. Joseph B. Griswold, Grand Rapids, on his retirement from the presidency of the board of health was presented by the board with a gold-mounted umbrella.——Dr. George E. Moore, Ironwood, has been elected health officer of Gogebic County.

Communicable Diseases.—The health officer of Grand Rapids reports that he now considers the smallpox situation under control, as no new cases from the old sources are expected.—— Waverly Township, Van Buren County, has at present 11 cases of smallpox of mild type.——There are said to be 15 cases of smallpox in Sciota Township Shiawassee County.—— The school at Grawn has been closed because of 6 cases of smallpox among the pupils.——Several cases of smallpox are reported in the townships of Casco, Glenn and Ganges, Allegan County.——An epidemic of smallpox is said to prevail in Condis Township, Shiawassee County.——Scarlet fever is reported to be increasing at Manchester.——Watervliet has an epidemic of measles. More than 100 cases have been reported in and around the village.

NEBRASKA.

Free Dispensary.—A free dispensary is to be installed at the City Mission Hospital, Omaha. Dr. Edward A. Van Fleet will be in charge.

Smallpox.—Thirty cases of smallpox are reported from Norfolk.——Lincoln reports three cases of smallpox in the family of an Eddyite.

Commencement.—The sixteenth annual commencement exercises of the John A. Creighton Medical College, Omaha, were held May 1, when a class of 41 was graduated.

Personal.—Dr. William L. Cameron, Palmyra, is taking treatment in the Pasteur Institute, Chicago, for hydrophobia.——Dr. Nina R. Smith, Homer, has been obliged to give up her practice on account of ill health.

Free Antitoxin.—The State Board of Health announces, under date of April 4, that arrangements have been completed to supply indigent persons suffering from, or threatened with, diphtheria, with standard antitoxin, always fresh and reliable, and to be furnished to health officers and boards of health at wholesale prices. The circular also gives instructions for obtaining antitoxin and the proper method of its administration.

NEW JERSEY.

Contagious Diseases.—Ten new cases of typhoid fever with one death were reported in Trenton during the past week. ——Scarlet fever and measles are epidemic in Swedesboro.

Personal.—Dr. John B. Cassady, Burlington, who has been seriously ill in John Hopkins Hospital, Baltimore, has returned home greatly improved.——Dr. William H. Iszard has been appointed food and drug inspector of the Camden Board of Health vice Dr. A. T. Sellers.——Dr. Fred S. Hammond of the State Hospital, Trenton, has been elected pathologist of Mercer Hospital.

Vital Statistics.—During the month ended April 15, 3,134 deaths were reported in the state, a decrease of 519 from the corresponding period of last year. Chief among death causes were diseases of the nervous system, 428; diseases of the circulatory system, 382; pneumonia, 354; tuberculosis, 332; diseases of the respiratory system, 235; nephritis, 219; diseases of the digestive system, 181; cancer, 128; infantile diarrhea, 77; diphtheria, 48; scarlet fever, 46; suicide, 44; typhoid fever, 37; cerebrospinal meningitis, 36; measles, 26; whooping cough, 17, and smallpox, 1.

Health Measures Approved.—Among the measures approved by the legislature and governor, as a result of the Hahn investigation committee, are the bills abolishing the State Sewage Commission and vesting its powers and authority in the State Board of Health. The latter board, as at present constituted, is also abolished and a new body of 6 members, to be appointed by the governor, is created. Other bills approved, give the State Board of Health full power and authority to prosecute measures to stop epidemics in state institutions, regardless of local boards of health. Another bill provides for the transfer of inmates from one state institution to another as occasion may require, and prohibits the commitment to the State Reformatory of any person above the age of 30 years or who may have been previously convicted of any offense carrying a prison penalty. The latter reforms came as the result of the revelations at the Rahway Reformatory and the State Hospital for the Insane, Trenton.

NEW YORK.

New York City.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended May 2, 482 cases of tuberculosis with 178 deaths; 425 cases of diphtheria with 45 deaths; 1,652 cases of measles with 41 deaths; 855 cases of scarlet fever with 60 deaths; 36 cases of typhoid fever with 8 deaths; 12 cases of cerebrospinal meningitis with 14 deaths; 158 cases of varicella; 27 cases of whooping cough and 1 case of smallpox, a total of 3,648 cases and 346 deaths.

Lack of Accommodations for Tuberculous Patients.—Dr. Linsly R. Williams, chairman of the section on public health, New York Academy of Medicine speaks very forcibly of the overcrowding existing in institutions for tuberculous cases under the care of the Department of Charities. In 1905 there were admitted to the Metropolitan Hospital Tuberculosis Infirmary, 2,929 patients; in 1906, 2,531; in 1907, 2,798. The largest number of patients in the hospital at any one time during the present year was 801, and these figures were for a building meant to accommodate not over 680 patients. In March, 1908, 121 patients slept on the floor. There is a waiting list at the Montefiore Home of 41 and at the Bedford Sanitarium of 25. There were 144 patients on the waiting list for Riverside and 74 for Otisville. There is overcrowding at Bellevue Hospital, at Seton and at St. Josephs. The section on public health passed the following resolution:

Realizing the fact that the total number of tuberculosis cases in this city is steadily increasing and that there has been no marked increase in the number of beds for tuberculosis cases, and that the overcrowding now existing in several institutions in this city is a wrong to the sick poor, as well as a disgrace to the community; be it

Resolved, That the section on public health respectfully requests the council of the Academy of Medicine to bring this matter before the next meeting of the Academy of Medicine.

In 1900 there were 11,927 cases of tuberculosis reported in Greater New York, with 8,154 deaths, and in 1907 there were 19,725 cases reported wth 8,199 deaths. In consideraton of the above facts, be it further

Resolved, That the Academy of Medicine deplore this great lack of accommodation for advanced tuberculous cases in this city and earnestly request the board of estimate and apportionment to take the proper steps to relieve this immediate need. Be it further

Resolved, That copies of the above statement of facts, with the resolution, be sent to the mayor, the comptroller and the president of the board of aldermen.

NORTH CAROLINA.

To the Chicago Session.—Arrangements are being perfected to run through Pullman cars from some point in North Carolina direct to Chicago without change to the coming session of the American Medical Association. Members of the profession desiring to become members of the party are asked to place themselves at once in communication with Dr. Dan Sevier of Asheville.

Pellagra.—According to Dr. Edward J. Wood, Wilmington, several cases of pellagra have been observed in the city during the past few months, Dr. Wood himself having observed 10 cases. Dr. James McKee has seen a few cases in his service in the wards of the State Hospital for the Insane, Raleigh. Dr. John McCampbell, Morganton, has also observed cases in the wards of the State Hospital for the Insane at that place.

Prevalent Diseases.—The State Board of Health reports the following diseases prevalent during April: Measles in 33 of the 98 counties of the state; whooping cough in 28 counties; scarlet fever (of mild type) in 11 counties; diphtheria in 18 counties; typhoid fever in 17 counties; influenza (of very mild type) in 37 counties; pneumonia in 67 counties, but with low mortality; and about 350 cases of smallpox in 25 counties.

Personal.—Dr. Lewis M. Gaines, who for the past three years has been professor of anatomy and physiology in the Medical Department of Wake Forest College, has returned to Atlanta, Ga., to practice. He has been appointed associate to the medical department of the Presbyterian Hospital and attending physician to the Free Dispensary for the Home Treatment of Tuberculosis.——At the annual meeting of the directors of the State Hospital for the Insane, Raleigh, Dr. L. Julian Picot, Littleton, was elected second assistant physician to succeed Dr. Edwin B. Ferebee, resigned. Dr. Charles L. Jenkins was re-elected first assistant physician in charge.

PENNSYLVANIA.

Philadelphia.

Personal.—Mr. Carl R. Steinke, Atlantic, Iowa, has been elected president of the undergraduate medical association of the University of Pennsylvania.——Drs. George G. Ross and William S. Higbee sailed for Europe May 1, and Dr. William J. Taylor, May 3.——Dr. E. O. White has returned from Vienna.——Drs. S. Weir Mitchell and George E. de Schweinitz were elected directors of the Library Company of Philadelphia on May 4.——Dr. Andrew A. Cairns, chief medical inspector of the bureau of health for eight years, resigned May 8.

Tuberculosis Crusade.—As the result of a meeting representing the Pennsylvania Society for the Prevention of Tuberculosis and the Central Labor Union, plans were made whereby tracts will be distributed to members of the trades unions of the city, and placards of instruction will be placed in all factories and meeting places of local branches of the various unions. All unhygienic conditions will be reported to the society and means will be instituted to abolish such conditions. Plans were also formed by which workmen suffering with tuberculosis will be given light outdoor employment.

Health Report.—The total number of deaths reported for the week ended May 9 aggregated 451, a decrease of 62 from the previous week, and a decrease of 109 from the corresponding week of last year. The principal causes were: Typhoid fever, 10; measles, 14; scarlet fever, 3; pertussis, 6; diphtheria, 5; consumption, 71; cancer, 22; diabetes, 4; apoplexy, 15; heart disease, 33; acute respiratory disease, 66; enteritis, 10; hepatic cirrhosis, 6; appendicitis, 6; Bright's disease, 42; premature birth, 9; congenital debility, 5; suicide, 5; accidents, 7, and marasmus, 6. There were 175 cases of contagious diseases reported, with 18 deaths, as compared with 208 cases and 28 deaths reported in the preceding week.

College of Physicians' New Home.—The new home of the College of Physicians, the cornerstone of which was placed April 29, will be a two-story structure of red brick and light limestone. The floors and wainscoting will be of marble and the building will be fireproof throughout. The first floor will contain the lecture rooms, secretary's office and rooms for the nurses' directory. This floor will also contain a part of the museum and a part of the book stack, which will ascend in seven tiers all the way up the building to the roof. A marble staircase will lead to the second floor, directly to the "Hall of Portraits." This hall will be the meeting room of the college and will be 71 by 48 feet. This room will contain portraits of eminent fellows of the college during the 121 years of its existence. The rear of this room will contain a reading room and periodical room, each 60 by 33 feet. The library, which will be housed in this building, is the third largest medical library in the world.

WISCONSIN.

Personal.—Dr. Mazyck P. Ravenel, professor of bacteriology in the University of Wisconsin, has been appointed director of the State Hygienic Laboratory.——Dr. Guy C. Wauffle, Janes-

ville, has been elected city health officer.——Drs. Edward E. Evans and Mathias W. Dvorak, La Crosse, have sailed for Europe.——Dr. Theodore Koch has been appointed health officer of Baraboo.——Dr. Herbert E. Ellsworth, Appleton, has been elected physician of Appleton and of Outagamie County.

Smallpox.—A dozen or more cases of smallpox have developed on the east side of Peshtigo.——The State Industrial School, Waukesha, has been placed under quarantine on account of an epidemic of smallpox.——Seventeen families in Pittsville have been quarantined on account of smallpox.——The president of Beloit College is ill with smallpox and 13 girls, inmates of Stowell Cottage, are under quarantine.——Four schools in Chippewa County have been closed on account of the prevalence of smallpox.——Several cases of smallpox are reported in Colby.——A number of cases of smallpox are reported in and near Black River Falls.

Endorses Efforts Against Consumption.—At a meeting of the Wisconsin Board of Medical Examiners, held April 15, the following resolutions were unanimously adopted:

WHEREAS, We consider it to be the duty of all public organizations and especially those composed of physicians, to express their sympathy with the endorsement of the efforts being made to stay the ravages of the "white plague" and we desire to aid, if we can, in arousing interest of the citizens of Wisconsin in the great international movement now in progress, to educate the people everywhere concerning this terrible disease and the best methods to be employed in curing it and preventing its further spread by contagion; therefore be it

Resolved, That being aware of the tremendous ravages of consumption, and convinced of the truths that tuberculosis (consumption) is a communicable disease, we hereby record our endorsements of the efforts that are being made by the National Society for the Study and Prevention of Tuberculosis, the International Congress on Tuberculosis, and the Wisconsin committee of the international congress to stamp out the disease.

GENERAL.

Monument to Yellow Fever Heroes.—Dr. John C. Hemmeter, Baltimore, in a recent issue of *Janus*, a historical medical journal published in Holland, urges that the monument to be erected to Dr. Walter Reed in Washington, include Drs. Lazear and Carroll, who were also members of the yellow fever commission.

Therapeutists Elect Officers.—At the ninth annual meeting of the American Therapeutic Society, held in Philadelphia, May 9, the following officers were elected: President, Dr. Frederick H. Gerrish, Portland, Maine; vice-presidents, Drs. Alexander D. Blackader, Montreal, Que.; Howard Van Rensselaer, Albany, N. Y., and Robert P. Morris, New York City; secretary, Dr. Noble P. Barnes, Washington, D. C.; treasurer, Dr. A. Ernest Gallant, New York City; council, chairman, Dr. W. Webb Wilcox; vice-chairman, Dr. Edward D. Fisher, New York City; Drs. A. Ernest Gallant, New York; Robert Reyburn, Washington; Frances P. Morgan, Washington; Thomas E. Satterthwaite, New York City; John B. White, New York City; Howard H. Barker, Washington; Oliver T. Osborne, New Haven; John V. Shoemaker, Philadelphia; D. Olin Leech, Washington; Eli H. Long, Buffalo, N. Y.; James C. Wilson, Philadelphia, and Alexander McPhedran, Toronto, and committee on admissions: Drs. Thomas E. Satterthwaite, Oliver T. Osborne and D. Olin Leech. The retiring president, Dr. John V. Shoemaker, tendered the association a reception at his residence May 8. The annual banquet was held at the Bellevue-Stratford May 9. A reception was also tendered the association by the Philadelphia Branch of the American Pharmaceutical Association at the same place May 7. It was decided to hold the next meeting of the association at New Haven, Conn., May 6-8, 1909.

Society Meetings.—At the annual meeting of the American Surgical Association, held in Richmond, Va., May 4-6, a tribute was paid to Dr. Hunter McGuire, a former president of the body, and Philadelphia was decided on as next place of meeting. The following officers were elected: President, Dr. Charles B. de Nancrede, Ann Arbor, Mich.; vice-presidents, Drs. Arpad G. Gerster, New York City, and Leonard Frieman, Denver; councilors, Drs. William H. Carmalt, New Haven, Conn., Albert Van Der Veer, Albany, N. Y., Dudley P. Allen, Cleveland, and the president, secretary, treasurer and recorder; secretary, Dr. Robert G. LeConte, Philadelphia; treasurer, Dr. Charles A. Powers, Denver; and recorder, Richard H. Harte Philadelphia.——At the March meeting of the Manila Medical Society 26 were present and the opsonic treatment of disease, sanitation against animal parasites and crusade against tuberculosis were discussed. At the April meeting, held in the Philippine Medical School, Dr. Paul G. Woolley presented a note on the bacteriotherapy of leprosy; Dr. W. E. Musgrave and M. T. Clegg reported 50 fatal cases of intestinal amebiasis without diarrhea, and Dr. W. W. Reno demonstrated a new hypodermic syringe.——The National Association of Pension Examining Surgeons will meet at the Palmer House, Chicago, at 10 a. m., June 1, under the presidency of Dr. G. Lane Taneyhill, Baltimore. The society has a membership of 1,027, including every state in the Union, and an attendance of from 300 to 400 is expected.——The Fifth Pan-American Medical Congress will take place at Guatemala, Central America, August 5 to 8 inclusive.——The eleventh annual meeting of the American Medico-Pharmaceutical League will be held at the Hotel Astor, New York City, May 25.

FOREIGN.

Typhoid Epidemic in Australia.—Typhoid is reported prevalent in Victoria, especially in the country districts.

Probable Discovery of Radium at New Points.—Late dispatches state that ore has been found at Kreuznach and at Marienbad which contains radium.

Epileptic Asylum for Australia.—The Wendouree Asylum, Victoria, is to be made a central institution for the care of epileptics in the state. The cost will be about $45,000.

Medical Tribunals of Honor.—For six years the authorities at Hamburg have been deliberating as to the advisability of establishing a medical tribunal of honor like those elsewhere in Germany. The question has finally been definitely settled in the negative.

Italian Association for Urology.—The Italians have organized a national association of urologists, modeled on those in France, Germany and the United States. The inaugural meeting was held recently at the Policlinico, Rome, with Prof. Durante in the chair.

Organization of the Profession in Bohemia.—As already mentioned in these columns, the association formed in Bohemia on the model of the German *Leipziger Verband* is doing good work. The remuneration of the medical officers of the sick benefit societies in various districts has been increased to the desired rates. In the Tetschen district all the physicians thus benefited turn over to the organization 10 per cent. of the increase.

Smallpox Still Epidemic in Japan.—According to *Public Health Reports*, there were 238 deaths from smallpox in Osaka, in one week recently. The disease has assumed an epidemic form at the ports of Moji and Bakan, in Shimonoseki. In Nagasaki the disease has not yet become epidemic as from January 1 to March 7, there were only 18 cases with four deaths. For the same period there were in Moji 126 cases with 117 deaths.

Inspection of Private Hospitals in Western Australia.—The Trades Union Congress recently held at Kalgoorlie passed a resolution to the effect that all hospitals should be under government control, and that the police should have power to enter such hospitals at any time for the purpose of inspection. Kalgoorlie, says the *Australian Medical Gazette*, has an unenviable reputation for illegal operations and this resolution was probably prompted by a desire to suppress any institution doing such work.

This Year's Medical Study Trip.—The German committee in charge of organizing annual medical excursions to various health resorts announces that the trip this year will be by water. The ship will leave Hamburg early in September and will touch at the islands in the English channel, the Madeira Islands, Lisbon, Morocco, Heligoland and at the Holland ports. The excursion will last between three and four weeks, and the total cost is to be between 425 and 525 marks—about $100. This includes all expense of side trips, etc. The secretary of the committee is Dr. A. Oliven, Berlin NW., Luisenplatz 2/4.

Italian Neurological Congress.—Naples was the scene, April 8, of the first Congress of Italian Neurologists. L. Bianchi presided, and C. Negro of Turin discussed the semeiology of a large number of nervous affections, illustrated by moving pictures showing the special features of tabes, sclerosis with patches, organic hemiplegia, etc. Mingazzini presented the theme of aphasia, discussing Marie's recent assertions in regard to its anatomic seat, with which he does not agree. Bianchi discussed the physiology and pathology of the frontal lobes, describing experimental research with resection of these lobes. Rossi discussed the subject of arteriosclerosis of the nerve centers and the resulting clinical manifestations. The next congress will be held at Genoa in October, 1909. The executive committee includes such well-known neurologists as Golgi, Tanzi, Morselli, De Sanctis, Negro, Lugaro and Donaggio, all connected with various universities.

Therapeutics.

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Enterocolitis of Young Children.

(Continued from page 1540.)

Dr. L. E. La Fëtra of New York completed the discussion on enterocolitis by presenting the medicinal treatment of the disease. He cautions against too warm covering for the child, believing a light, porous-meshed material or light flannel is the best clothing. This allows evaporation and radiation from the surface of the body. Stools and diapers should be scrupulously disinfected. The baby should be placed on a cot, if possible where dry, cool air can be obtained. A veranda, balcony or tent should be used, if the baby can not be moved out of the city.

He well says that Nature should not be impeded in her methods of curing this disease, but, on the other hand, she is just as poor a physician as she is "a botchy surgeon."

The two indications presented for medicinal aid are "to promote elimination and to allay inflammation." He thinks that the most valuable eliminator is an alkaline cathartic, such as Glauber's, Epsom or Rochelle salt, and prefers the sodium sulphate (Glauber's) for the younger patients. Of course, any saline should be used with care when the baby is under nine months of age, and not at all when the patient is depressed, with sunken fontanelle, low temperature, and evidence of great need of water. In such a condition of depression he prefers to use calomel and castor oil, together with colon irrigations and occasional lavage of the stomach. To the patients without depression he would give the salt every half-hour for four or five doses; "to an infant of nine months the dose is 10 grains (0.65); to a child of two years, 20 grains (1.30), in a teaspoonful of water." For older children he thinks that Epsom salt may be better, especially if "there are dysenteric stools with much blood." He does not say why.

For a child nine months old:

℞.	gm. or c.c.		
Sodii sulphatis	5		ʒiss
Syrupi zingiberis	10	or	fl ʒiii
Aquæ	ad 50		ad fl ʒii

M. et Sig.: A teaspoonful, in water, every half-hour for four or five doses.

Or:

℞.	gm. or c.c.		
Sodii sulphatis	10		ʒiii
Syrupi rhei aromatici	10	or	fl ʒiii
Aquæ	ad 100		ad fl ʒiv

M. et Sig.: A teaspoonful, in water, every half-hour for four or five doses.

For a child two years of age:

℞.	gm. or c.c.		
Sodii sulphatis	10	or	ʒiii
Aquæ cinnamomi	50		fl ʒii

M. et Sig.: A teaspoonful, in water, every half-hour for four or five doses.

Or:

℞.	gm. or c.c.		
Magnesii sulphatis	10	or	ʒiii
Aquæ menthæ piperitæ	50		fl ʒiii

M. et Sig.: A teaspoonful, in water, every half-hour for four or five doses.

He says that these saline laxatives are not apt to be vomited, and the bowels are cleared out more rapidly and more effectually than by calomel or castor oil, and "the watery stools flush out the ileum and colon, syphon out the toxins, and hence reduce the temperature."

When vomiting is persistent and even these salts can not be retained, he gives calomel dry on the tongue, in divided doses, as:

℞.	gm.		
Hydrargyri chloridi mitis	.06	or	gr. i
Saccheri lactis	1		gr. xv

M. et fac chartulas 10.

Sig.: One powder dry on the tongue every half-hour.

He believes that castor oil has its best use in the late stages of the disease, and he then gives it in small doses in conjunction with bismuth. He does not mention the exact dose. The bismuth may be given as follows:

℞.	gm.		
Bismuthi subnitratis	10	or	ʒiiss

Fac chartulas 20.

Sig.: A powder, administered in a teaspoonful of barley water or other nutriment, every three hours.

Elimination through the skin should be encouraged by frequent bathing, at least twice daily, using warm water unless there is high temperature. He would use soap and water to cleanse the skin of a patient showing much toxemia so as to clean out the secretion from the sweat glands and aid the skin to act properly.

He believes that weak tea makes a splendid mild stimulant and slightly astringent drink. The high colon injection, not only for irrigation purposes, but to leave some salt solution in the colon for absorption, is commended. To the normal saline solution he would add a little bicarbonate of soda. The solution may be used hot or tepid, or even a little cooler than the body, depending on the temperature of the patient, and if necessary he would give such irrigations twice in twenty-four hours, especially if the patient were toxemic, unless the child should become nervously excited or wearied by the procedure. He thinks that bowel irrigation has been overdone, and therefore does not commend it to reduce the frequency of the movements of the bowels, except when there is mucus coming from the colon, with considerable rectal tenesmus. Even in this condition he would not give irrigations more than once a day unless, as above stated, it should be necessary to cause the absorption of water by injecting solutions for that purpose into the colon.

As a physiologic antidote to toxins in the system he recommends atropin, and gives it hypodermatically in 1/1000 of a grain doses every two hours until there is physiologic effect as shown by dilatation of the pupil and flushing of the face.

He finds that dilute hydrochloric acid added to the food or the drinking water, as recommended by Jacobi, is often a help in obtaining digestion of the nutriment given.

℞.	c.c.		
Acidi hydrochlorici diluti	25	or	fl ʒi

Sig.: Two or three drops, in water, after proteid nutrition.

[Hydrochloric acid would not be indicated with starch foods.—ED.]

For general stimulation, if the child is not vomiting, he uses the tincture of nux vomica or tannate of quinin, as:

℞.	c.c.		
Tincturæ nucis vomicæ	15	or	
Aquæ	ad 30		āā, fl ʒss

Sig.: One drop every four hours, for a child one year of age.

If there is vomiting, or if more stimulation is required, hypodermatic injections of strychnin in 1/300 of a grain dose (0.0002) should be used in place of the above. He also uses injections of camphor oil, which may be given as the saturated solution of camphor in sterile and filtered olive oil.

La Fétra states that when stimulation was required he has obtained good results with suprarenal extract, administered in powder or capsule. [He can not mean capsule, as these children are too young to swallow a capsule or pill. Also, no increase of blood pressure and no cardiac stimulation could be obtained after suprarenal extract had been taken into the stomach. A drop of a solution of the active principle of the suprarenals diluted with a few drops of water and placed on the tongue would give cardiac and vasomotor stimulation. —ED.]

As soon as the temperature has fallen, the digestive tract seems clean and the toxemia is lessened, he administers a powder to soothe and heal the inflamed intestinal mucous membrane, and uses chalk, magnesia, zinc oxid or bismuth, as:

℞.	gm.		
Bismuthi subnitratis	20	or	3v
Zinci oxidi	5		gr. lxxv

M. et fac chartulas 20.

Sig.: One powder every two hours.

This powder may be given in a teaspoonful or two of nutriment, as above suggested. He does not use salicylate of bismuth, but often adds salicylate of soda or creosote.

It would seem much better, if salicylic acid is to be used or if creosote is advisable, to give the combination of salicylic acid and phenol as salol, which can not and does not disturb the stomach; as, for a child two years old:

℞.	gm.		
Bismuthi subnitratis	10	or	3iiss
Phenylis salicylatis	2		3ss

M. et fac chartulas 20.

Sig.: One powder every three hours.

Instead of any other tannic or gallic acid preparation, he often uses the subgallate of bismuth, and uses it in the same dosage as the bismuth subnitrate, which seems too large. He advises the use for some time of these large doses of bismuth, and certain it is that large doses are needed to coat and soothe the whole intestine. On the other hand, bismuth should not be used too long, as it tends to form concretions and scybalous masses, which may prolong the inflammation and irritation beyond what would occur had bismuth not been administered in such amounts.

℞.	gm.		
Bismuthi subgallatis	10	or	3iiss

Fac chartulas 20.

Sig.: A powder every three hours.

If in spite of the powders the stools continue too frequent, the bowels moving after every feeding or after every drink of water, he advises the use of opium, but does not think it should be used during the period when there is marked toxemia, as he believes that bowel drainage is the way that serious toxemia is prevented. Later, when the inflammation persists and acute toxemia is not present, he uses opium in some form, as Dover's powder, or paregoric, as:

℞.	gm.		
Pulveris ipecacuanhæ et opii	20	or	gr. iii
Bismuthi subgallatis	10		3iiss

Sig.: One powder after each loose movement, unless the child is very drowsy.

Or:

℞.	c.c.		
Tincturæ opii camphoratæ	25	or	fʒi

Sig.: Ten drops, in water, after each loose movement, unless the child is drowsy.

When children vomit badly, he would give morphin hypodermatically, as 1/100 of a grain (0.0006).

Of course, it is understood that the above doses should be increased or diminished, depending on the age or weakness of the child.

Like many other drugs, the dose of opium when used for children should be enough and not too much, and this is safely decided by the amount of drowsiness, the dose being not more frequent than once in two hours. The deodorized tincture of opium is one of the best preparations in which to administer opium to a child. The dose for a child two years old should be one drop every two or three hours, increased or diminished depending on the results. Acute pain and frequent movements of the bowels should not be allowed when opium will control it, although as so well stated by La Fétra, in the beginning of the disease the toxins should not be locked up in the intestines by opium.

When the fever is high, La Fétra uses hydrotherapy and fanning until the temperature comes down to 100 F. He uses lavage of the stomach and colon, irrigations of the bowel, with ice to the head and heat to the extremities, if the symptoms call for such treatment.

He cautions against too long continued colon irrigations as keeping up mucous discharges, and advises general tonic treatment in protracted cases. He would keep up the bismuth, which, however, in our opinion should not be too long continued.

If there are frequent, small, bloody stools, he finds high irrigations of a gelatin solution of advantage, or an injection of a weak suprarenal extract solution, or a 10 per cent. solution of one of the organic compounds of silver, used once a day for three or four days. If there is great bowel distention due to paralysis of the intestines, he puts a little turpentine into the irrigations and applies turpentine stupes to the abdomen, and gives strychnin hypodermatically.

Owing to the age of the patient and the great tenderness of the skin it would seem that the same object of pleasant warmth to the abdomen could be obtained with a spiced poultice, or even with a flaxseed poultice, care being taken not to put too much weight on the abdomen.

If there is much rectal tenesmus, he finds irrigations with a demulcent, as starch paste or a bland oil, or a gelatin solution, of advantage. Suppositories are not well retained by young children. If the rectum is prolapsed he advises anointing it with a 5 per cent. cocain ointment. Owing to the uncertainty of the amount of cocain that may be absorbed, the use of cocain in a child likely to become collapsed seems inadvisable.

Pharmacology

THE BROADER AIMS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

TORALD SOLLMANN, M.D.
Member of the Council, Professor of Pharmacology and Materia Medica at the Medical Department of Western Reserve University.
CLEVELAND, OHIO.

(*Continued from page 1541.*)

VIII. THE PRETENDED DELAYS OF THE COUNCIL.

Last week I presented evidence that the Council has already considered practically all the worthy proprietary products on the American market—I feel quite safe in saying *all* the products of any importance. It is perfectly true, however, that some of these products have not been finally disposed of. This fact has been seized on by some of the enemies of the Council whose interests have been involved. It has been asserted that the Council is so overwhelmed with work that a new product is "held up" in committees so long that a progressive practitioner can not afford to await the decisions. I wish to present the extent and also the cause of these delays, so that the members of the profession may be able to decide the justice of these charges.

Up to March 4, 1908, the Council had considered about 700 proprietary articles. Of these nearly 600 had been finally

accepted or rejected, and about 100 were still under consideration. This seems a fairly large proportion of "unfinished business."

Where does the fault lie? The active work of the Council had, at the date mentioned, extended over about two and a half years, so that the disposition of the products submitted had proceeded at the rate of about 250 articles a year. The Council could easily have acted on twice this number and would not have hesitated to give this time if by so doing it could have "cleaned up" all the articles under consideration. As a matter of fact, however, the hundred unclassified products have required fully as much time for their proper consideraton as the six hundred which were classified. This time has been given; and as much more time as was needed could and would have been given if this alone would have produced the desired result.

A product which plainly and fully complies with the rules can be and almost always is, accepted within a month after it is submitted—surely not a very serious delay. On the other hand, some products have been under consideration for a year, and even longer, but in every case positive final action has been delayed to give the manufacturers an opportunity to remove conflicts with the rules or to submit evidence to substantiate claims which appeared extravagant or untrue. Every delay is referable to one or both of these two causes. In view of this, it is ungracious, to use no harsher term, for manufacturers to complain of these delays. There is but one way of avoiding such delays, and that is by adhering to the simple policy of definitely refusing every product which infringed with the rules, or which was not backed by adequate evidence. The Council would be more than satisfied to adopt this policy, for it could thus clear its docket within two weeks, and save itself over half of its labors and perplexities. The persons, however, who would be the first to protest against this elimination of delay are the very ones who now pose as martyrs of such delays—the manufacturers.

So far as the practitioner is concerned, he may feel assured that any delays are for good cause, and that he is amply justified in suspecting every proprietary product until it has been accepted by the Council. For the probability is that very few of the hundred will be finally accepted.

(To be continued.)

The Danger of Self-Prescribing.

The *Ohio State Medical Journal* quotes the following editorial from the *Ohio State Journal* of Columbus, as an "encouraging sign of the times and an evidence that the leaven is working in the minds of thinking people."

SOMEWHAT CRIMINAL.

Practicing medicine is a pretty dangerous thing for the patient, if the man doesn't know anything about the science, and sometimes it is rather dangerous for the alleged practitioner himself, as was the case with a fellow out in Massachusetts who sold a person two bottles of "catarrh cures" that contained cocain. The catarrh curist was arrested, fined $50 and put in jail—a practical lesson to all who have no business to deal in medicine.

Then, there was that woman, mentioned in the papers the other day, who gave the little girl attending her daughter's party some of her headache medicine, and then put the child to bed to sleep it off. The child went to sleep and never wakened again. . . .

Sometimes these little medicine adventures do not result fatally. But most of them, if ignorantly taken, manage to get around among the organs somewhere and do more or less damage. It is about as bad to deal haphazard with powerful cures as it is to go meandering about a magazine with a lighted candle.

The commentator wisely says: "In time we hope that our daily papers will be bold enough to actually name the specific 'catarrh cures' which contain cocain and the headache tablets which kill the unwary. In the meantime, such articles as these will help to educate the people and to crystallize public opinion."

The last year has shown a gratifying change in the attitude of many lay journals. We hope that in time the majority of editors and publishers may realize that they have a public function to perform, and that it is their duty to lead in all movements to protect the public health rather than to exploit the public to their own advantage by opening their columns to the advertisements of dangerous or fraudulent preparations.

Correspondence

"Straus Milk" Not "Dirty Milk."

NEW YORK, May 5, 1908.

To the Editor:—The valuable article on "The American Association of Medical Milk Commissions" by Dr. Otto P. Geier, in THE JOURNAL, May 2, 1908, contains statements concerning certain conditions about which Dr. Geier has apparently been misinformed. He refers to the milk distributed from the milk depots established by Mr. Nathan Straus in New York City as being "dirty milk," also as "milk from an unknown source and of unknown quality." Dr. Geier is apparently not aware of the fact that the Straus milk depots of New York City have used milk certified by the Milk Commission of the Medical Society of the County of New York; that the farms on which it is produced are regularly inspected by the inspector of the commission, and that this milk is chemically and bacteriologically examined in the laboratories of the department of health of this city.

By giving this statement the same publicity that you have given Dr. Geier's article you will be simply securing fair play for Mr. Straus, who has, I believe, done a very important work at a time when no one else was willing to do it, and has exerted a material influence in the great reduction in infant mortality which has taken place in this city.

ROWLAND G. FREEMAN, M.D.,
Secretary of the Milk Commission.

Free Dental Services for the Poor.

NEW YORK CITY, April 25, 1908.

To the Editor:—In February, 1907, the Children's Aid Society consented to furnish a room in one of its industrial schools for the purpose of establishing a free clinic where dental services could be obtained by the needy poor. A few dentists, who were interested in furthering this service for those unable to pay for it, agreed to give their time and to persuade others to join in the work, if the Children's Aid Society would equip the room and buy the necessary material. This has been done, and a staff of about forty dentists has been organized, who serve without pay. Two or three members of this staff are on duty every afternoon except Saturday and Sunday.

The room equipped for this purpose is in a school where about 500 children are taught at 552 West Fifty-third Street. The needs of the pupils here have been so great that they have formed a great majority of patients for the institution thus far, though it is open to the general public.

The service has been divided into classes. The older and more experienced members are known as consulting dentists, the middle aged as visiting dentists, and the younger men as attending dentists; the arrangements being such that there is always an older and more experienced man present with the younger one.

The original stimulus for this clinic came about through the researches of the New York committee of physical welfare of school children. The investigations of this committee seemed to show that between 75 and 90 per cent. of the public school children of New York City had diseased teeth. The record of examinations conducted thus far at this clinic proves these figures correct. The record of the first ten months up to Jan. 1, 1908, shows that 555 children have been examined; 2,362 cavities have been found in permanent teeth; 370 cavities have

been found in deciduous teeth; 447 teeth have been extracted; 284 fillings have been inserted, including amalgam, cement and gutta-percha. Two hundred teeth have been treated, and in many instances after making the root canals aseptic, they have been filled, besides much instruction has been given in the care and cleansing of the teeth. Among the 555 patients examined not one has been found who did not need dental services.

When the importance of keeping the teeth and mouth healthy is considered, and the neglect of these important organs among the masses is observed, one may obtain some idea of the crying need of such a clinic as this in connection with almost every hospital in the country, and it is to be hoped that there may be a quickened sense of responsibility on the part of the dental profession in this matter, and a helpful cooperation on the part of the medical men and such societies, organizations and hospitals as may be able to further the efforts to provide for the dental necessities of the worthy poor.

While these forty men are working hard, the work they can do to alleviate the pressing needs of the people in this direction is but as a grain of sand on the beach.

HERBERT L. WHEELER.

The Midwives of Chicago.

SPRINGFIELD, ILL., May 4, 1908.

To the Editor:—I have read with interest the very complete and comprehensive report of the joint committee of the Chicago Medical Society and Hull House on "The Midwives of Chicago," as published in THE JOURNAL, April 25, 1908. The report and the conclusions of the committee give evidence that the members are thoroughly conversant with the laws regulating the practice of midwifery in the State of Illinois, and the powers and limitations of the State Board of Health in connection with these laws.

Little exception can be taken by the State Board of Health to the findings and conclusions of the committee other than in reference to the illegal practice of midwives, and to substitution in examination. It seems to me that if the committee had obtained knowledge that the Polish midwife referred to was practicing in violation of the law, the fact should have been reported to the State Board of Health at once, rather than to the readers of THE JOURNAL in a belated report. For all we know this self-same midwife may be yet practicing without legal authority. And if the committee learned that "a clever Polish midwife" substituted, in the examination, for other midwives "who lacked both the knowledge of English and the knowledge of midwifery," I think that the State Board of Health should have been advised, in order that it might have revoked the licenses of the midwives who failed to appear for examination, and, if possible, that of the midwife by whom they were substituted. But the State Board of Health believes that the committee has been incorrectly informed in this connection.

In connection with the laws regulating the practice of midwifery, the committee says: "In Illinois, as in most states of the Union, the regulations of midwife practice are the same as they were when the State began the control of midwifery."

It will be of news to this committee, as it will be of interest to the readers of THE JOURNAL, that in but few states other than Illinois are there "regulations of midwife practice," and in but few states does the law permit "the control of midwifery."

A few years ago I made a very careful investigation, for the purpose of determining how many states had laws or regulations controlling the practice of midwives. I made inquiries of every examining and registration board in the United States. I found that only ten states outside of Illinois, had any laws whatever on the subject of midwifery, and in some of these states no attempt was made to enforce the law. In these states as in others which lack specific laws, midwives practiced, as they still practice, "without let or hindrance," to use the language of the secretary of the registration board of a leading eastern state.

The proposed conditions outlined by the committee in its conclusions are ideal, but the committee, in common with the State Board of Health, and all others who have given this matter intelligent consideration, realizes the "difficulty in securing, first, the enactment of such rules, and then their execution."

But there is no reason why the law should not empower the State Board of Health to require a midwife to present evidence of adequate preliminary education, and satisfactory proof of obstetrical experience. Still, the present law does not permit the board to do this.

It is not feasible for the State Board of Health to subject candidates to a practical examination in obstetrics, and it is not possible, under the law, for the board to demand either evidence of adequate preliminary educational qualifications or of practical experience in obstetrics.

The qualifications of applicants for midwife licenses, as provided for in the act to regulate the practice of medicine in the State of Illinois, approved April 24, 1899, which said act was enacted at the instance of the legislative committee of the Illinois State Medical Society, and was approved by the Chicago Medical Society, are as follows: 1, Good moral character; 2, ability to pass the examination provided for in the statute.

The statute does not provide that such applicant shall have had any previous experience, and the State Board of Health is without authority to refuse a license to any candidate who has the qualifications prescribed by the statutes, on the ground that she had not had adequate preliminary education, or practical experience in obstetrics. The law merely empowers the State Board of Health to subject the applicant to an examination.

In conclusion I will say that the State Board of Health recognizes the inadequacy of the law, and would welcome an amendment that would permit the board not only to exact certain preliminary educational qualifications, and evidence of practical experience, but also to inspect and control midwives after licensure.

JAMES A. EGAN, Secretary.

Fresh Air in Prevention and Treatment of Disease.

CHICAGO, May 9, 1908.

To the Editor:—Apropos of the editorial in THE JOURNAL, April 4, 1908, on "Fresh Air in the Prevention and Treatment of Disease," I wish to call attention to the fact that during the epidemic of typhus fever in New York City in the winter and spring of 1881, patients with the disease were treated in tents erected on Blackwell's Island and fully exposed to the breezes from the river and harbor. The drug treatment was purely expectant. The mortality rate, as I recall it, was about 12 per cent., a very low rate as compared with that of previous epidemics. I would also call attention to the fact that the efficacy of the "tent treatment" of infectious disease was proved at Bellevue Hospital during the Civil War. A large number of cases of "pyemia" were brought to Bellevue for treatment one cold winter. The majority of the favored ones treated in the hospital proper died. Those who, because of overcrowding of the hospital, were housed in tents did well, in the majority of cases.

G. FRANK LYDSTON.

Apomorphin in Eclampsia.

HARTSHORN, OKLA., May 4, 1908.

To the Editor:—Dr. Morgan, in his article on "Treatment of Eclampsia" in THE JOURNAL, May 2, 1908, makes no mention of apomorphin in that condition, and I do not remember ever having seen this drug mentioned in this connection. I have used it in 1/10 grain doses, repeated if necessary in an hour, with uniformly good results; and some of my colleagues have also used it with the same results in most cases. This amount, 1/10 grain, is sufficient, and no ill effects have yet resulted in my practice. I would advise every physician who fails to control this condition with other drugs to give apomorphin a trial.

ROBERT I. BOND.

Association News

RAILROAD RATES.

Provisions for Reduced Fares for the Chicago Session.

The following rates have been made by the passenger associations indicated for the Chicago session of the American Medical Association, June 2 to 5, 1908:

NEW ENGLAND PASSENGER ASSOCIATION, including the following railroads: Boston & Albany; Boston & Maine; Canadian Pacific; Central Vermont; Grand Trunk; Maine Central; New York, New Haven & Hartford; Quebec Central & Rutland Railroad: One and one-half fare for the round trip, going and returning by the same route. Tickets on sale May 28, 29, 30 and June 1; returning, good up to and including June 12.

TRUNK LINE ASSOCIATION, including the following railroads: Baltimore & Ohio; Chesapeake & Ohio; Delaware, Lackawanna & Western; Erie; Grand Trunk; Lehigh Valley; New York Central; New York, Ontario & Western; Pennsylvania; Philadelphia & Reading; and West Shore: One and one-half fare going and returning by the same road. Tickets on sale May 28, 29 and 30, good for return trip up to and including June 12.

CENTRAL PASSENGER ASSOCIATION, including the lines operating in Michigan, Ohio, Indiana and Illinois, one and one-half fare. Tickets on sale May 28, 29, 30 and June 1. Good returning up to and including June 12.

Invitation to Physicians to Stop Over at French Lick, Ind.

Physicians and their friends en route to Chicago from southern states are invited to be the guests of the French Lick Springs Hotel Company on May 31 and June 1. Tickets from any of the southern points reading via Louisville and the Monon Railway entitle the holder to stop-over privileges at French Lick, Ind.

GENERAL ENTERTAINMENTS.

Various Functions—Formal and Informal—Arranged for Members and Guests.

(The Chicago membership pin or guest's badge of the Association will be necessary for admission.)

TUESDAY, JUNE 2.

No special entertainments are provided for Tuesday. The Committee of Arrangements has set apart this evening for section dinners, entertainments, etc., and alumni reunions. The following are reported as having been arranged:

Section on Ophthalmology, at the Chicago Athletic Club.

Section on Obstetrics, at the Auditorium Hotel.

Section on Surgery and Anatomy, at the Lexington Hotel.

Section on Neurology, dinner at the Stratford Hotel.

Section on Laryngology and Otology, at the Auditorium Hotel.

Section on Pediatrics, dinner at the Calumet Club.

There will be general alumni headquarters in the parlor, on the second floor of the Auditorium, for all the medical colleges in the United States. All members of the American Medical Association should register there as soon as possible on their arrival in the city.

On Tuesday evening, June 2, the following alumni reunions will take place:

Albany Medical School.—Meet at 6 p. m. in general alumni headquarters and adjourn from there for their reunion.

Dartmouth Medical College.—Meet at 6 p. m. in general alumni headquarters and adjourn from there for their reunion.

Detroit College of Medicine.—Reception at 8:30 p. m. at 438 LaSalle avenue.

Harvard Medical School.—Dinner and reunion at 6 p. m. at the Great Northern Hotel.

Jefferson Medical College.—Smoker at 8 p. m. at the Chicago Automobile Club.

Johns Hopkins University.—Dinner and reunion at 6:30 p. m. at the Auditorium.

Kentucky School of Medicine.—Dinner and Musical at 6:30 p. m. at the Auditorium.

Long Island College Hospital.—Reunion and dinner at 7 p. m. at the Tom Jones Café.

McGill University.—Banquet and reunion at 6:30 p. m. at the Great Northern Hotel.

University of Maryland.—Smoker and buffet luncheon at 8:30 p. m. at the Victoria Hotel.

Medico-Chirurgical College.—Reunion and supper at the Tom Jones Café.

University of Michigan.—Supper and smoker at 6:30 p. m. at the Grand Pacific Hotel.

University of Nebraska School of Medicine.—Dinner and reunion at 6:30 p. m. at the Tom Jones.

Northwestern University Medical School.—Annual alumni meeting, banquet and reunion at 6 p. m. at the new Illinois Athletic Club.

Medical College of Ohio.—Reunion, smoker and entertainment at 8 p. m. at the Bismarck Hotel.

University of Pennsylvania.—Smoker at 8 p. m. at the Chicago Athletic Club. Alumni who can attend please notify Dr. H. Diefenderfer, 7150 Euclid avenue, by May 20.

College of Physicians and Surgeons.—Informal reception and buffet luncheon at 8:30 p. m. at the Great Northern Hotel.

Rush Medical College.—Class reunion and supper a la carte at 6 p. m. at the Sherman House; smoker and annual alumni business meeting at 8 p. m. Monday evening, June 1, alumni theater party at the LaSalle.

Tulane University.—Dinner and reunion at 6:30 p. m. at the Union Restaurant.

Western Pennsylvania Medical College.—Reunion and Dutch luncheon at 7 p. m. at the Tom Jones Café.

Women Alumnæ, Woman's Medical Society of Illinois, Medical Woman's Club of Chicago.—Banquet and reunion at the Midday Club, First National Bank Building, at 6 p. m.

WEDNESDAY, JUNE 3.

On Wednesday evening a reception will be given to the President of the Association, Dr. Herbert L. Burrell, in the Coliseum, Fifteenth Street and Wabash Avenue, from 8:30 to 10 o'clock. Dancing from 10 to 12. Music by the First Regiment Band, under the conductorship of J. F. Hostrawser.

THURSDAY, JUNE 4.

A concert and smoker will be given at the Coliseum, from 8:30 to 12 o'clock. Music by the First Regiment Band.

The management of the Illinois Steel Company, at South Chicago, will furnish guides to those who desire to go through their mills. These can be reached by the Illinois Central Railroad. Trains leave the suburban stations at Van Buren and Randolph streets, on the Lake Front.

Messrs. Armour & Co., Swift & Co., and Libby, McNeill & Libby have extended an invitation to the members of the American Medical Association to witness a demonstration of the government inspection of meat and killing of cattle. On Saturday morning, June 6, a special train of the South Side Elevated Railway will leave Congress Street Station at 9 o'clock.

Arrangements for the Reception and Entertainment of Visiting Ladies.

The Ladies' Committee extends a cordial welcome to all visiting ladies and offers the following information for their pleasure and entertainment:

A room has been set apart in Exhibition Hall for the use of the ladies, where members of the committee may be seen each day from 10 a. m. until 2 p. m.

For those desiring a ride through Lincoln Park, on the North Side, and Washington and Jackson parks, on the South Side, automobiles will leave the Art Institute, Michigan Avenue and Adams Street, hourly from 10 until 4 o'clock, each day. A greatly reduced charge will be made members and guests of the American Medical Association. On the South Side are to be seen Chicago University and the Field Museum, in Jackson Park; on the North Side the Academy of Sciences and conservatories, in Lincoln Park.

The Art Institute of Chicago extends the privilege of the institute to members and guests of the American Medical Association during the days of the meeting from 9 a. m. until 5 p. m. The badge must be shown in lieu of a ticket.

An escort will be provided for ladies wishing to visit the University of Chicago, the Historical Society or Hull House.

TUESDAY, JUNE 2.

There will be an informal gathering of the ladies in the rooms of the Fortnightly Club, the Chicago Woman's Club and the Chicago College Club, from 2 until 4 p. m. The rooms are located on the eighth, and ninth floors of the Fine Arts Building, Michigan Avenue, near Congress Street. Mrs. Alexander F. Stevenson, president of the Fortnightly Club; Mrs. Edward L. Upton, president of the Chicago Woman's Club, and Mrs. Normal F. Thompson, president of the College Club, assisted by ladies of the committee, will receive. Musical programs will be rendered and tea served.

WEDNESDAY, JUNE 3.

There will be a reception in honor of Mrs. Herbert L. Burrell at the South Shore Country Club, from 2:30 until 4:30

p. m. Trains on the Illinois Central Railroad leave the Van Buren Street Station at 2:00, 2:40, 3:00 and 3:40 p. m., returning every forty minutes. Round-trip tickets can be purchased at the ladies' headquarters in Exhibition Hall, until noon, Wednesday. Music will be furnished by Ulrich's orchestra, under the direction of Mr. Albert Ulrich.

THURSDAY, JUNE 4.

There will be a reception in the Art Institute from 2 until 5 p. m. Mr. Charles L. Hutchinson, president of the Art Institute; Mr. W. M. R. French, director of the Art Institute; Mr. Lorado Taft, for the Chicago artists, and Mr. Ralph Clarkson, for the Municipal Art League, assisted by ladies of the committee, will receive. Music by members of the Theodore Thomas orchestra, under the direction of Mr. Albert Ulrich, will be rendered in the rotunda from 2 to 3:30 p. m. There will also be an Orchestral Concert by the same orchestra at the Fullerton Memorial Hall at 4 o'clock.

Medical Temperance Lunch.

This lunch will take place at the Auditorium Hotel, Chicago, June 3, at 1 p. m. The object is to have an informal gathering of all persons interested in the medical side of the temperance question, and after a light lunch, to listen to various speeches and remarks on the different phases of this subject. The occasion is purely voluntary and represents no society or special theory and has no object to promote any one phase of the problem. The first occasion of this kind at Atlantic City last year called out nearly 200 persons who, after a slight repast, listened with great pleasure to remarks from leaders of the profession, and expressed a warm desire to have a similar gathering at each annual session of the American Medical Association. A number of eminent medical men have promised to be present and speak on this occasion, and the meeting will be limited to two hours. For further information address Dr. T. D. Crothers, Hartford, Conn.

CLINICS AT CHICAGO.

A Partial List of Clinics at Various Hospitals and Colleges at the Chicago Session.

The following schedule is a list of clinics to which members of the American Medical Association are invited during the week preceding the Chicago meeting. Programs containing these clinics and those to be held during the two weeks following the meeting may be obtained in pamphlet form at the offices of all hospitals and colleges giving clinics and demonstrations, or by addressing A. J. Ochsner, Chairman Committee on Clinics.

HOSPITALS AND COLLEGES.

Below is given a list of the hospitals and colleges at which clinics will be held. The address of each hospital and college is given and directions for reaching each from down town.

ALEXIAN BROTHERS' HOSPITAL, Belden Ave., corner of Racine Ave. Take Fullerton Ave. car or Lincoln Ave. car and transfer on Fullerton.

AUGUSTANA HOSPITAL, 480 Cleveland Ave., corner Lincoln Ave. Take Sedgwick St., Lincoln Ave. and Lincoln and Wells St. car; get off corner of Garfield and Lincoln Aves.

CHICAGO COLLEGE OF MEDICINE AND SURGERY, 333 South Lincoln St. Take West Harrison St. or Ogden Ave. car; or Metropolitan Elevated train; get off at Lincoln St. or Ogden Ave. station.

CHICAGO EYE, EAR, NOSE AND THROAT HOSPITAL, Franklin and Washington Sts. In the down-town district.

CHICAGO MATERNITY HOSPITAL, 1033 North Clark St. Take Clark St. or Evanston Ave. car; get off at Belden Ave.

CHILDREN'S MEMORIAL HOSPITAL, 606 Fullerton Ave. Take North Clark St. or Lincoln Ave. car; get off at Fullerton Ave.

COOK COUNTY HOSPITAL, Harrison and Honore Sts. Take Harrison St. car and get off at Honore St.; or take Metropolitan Elevated and get off at Ogden Ave.

ENGLEWOOD HOSPITAL, 6001 Green St. Reached by the South Side Elevated, Englewood branch, to Halsted St., walk three blocks north and one west; or Halsted St. car to Sixtieth St.

EVANGELICAL DEACONESS HOSPITAL, 80 Wisconsin St. Take either Lincoln Ave. or Lincoln and Wells St.; or Sedgwick St., and get off at Wisconsin St.

GERMAN HOSPITAL, 754 Hamilton Ct. Take Lincoln Ave. or Larrabee St. cars and get off at Hamilton Ct.

HOME FOR CRIPPLED CHILDREN, 46 Park Ave. Take West Madison St. car and get off at Paulina St.

COLLEGE OF PHYSICIANS AND SURGEONS, West Congress St. and Ogden Ave. Take Ogden Ave., West Harrison St. or Van Buren St. car, or Metropolitan Elevated; get off at Lincoln St.

MERCY HOSPITAL, Calumet Ave. and Twenty-sixth St. Take Cottage Grove and Indiana Ave. car, and get off at Twenty-sixth St.

NORTH CHICAGO HOSPITAL, 1220 North Clark St. Take North Clark St. or Evanston Ave. car; get off at Wrightwood Ave.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, 2431 Dearborn St. Take South State St. car; get off at Twenty-fifth St., or South Side Elevated train and get off at Twenty-second St.

POLICLINIC HOSPITAL, 174 East Chicago Ave. Take either North Clark-Lincoln Ave. or Lincoln and Wells St. car; get off at Chicago Ave.

PRESBYTERIAN HOSPITAL, Congress and Wood Sts. Take Harrison St. car and get off at Wood St., or Metropolitan Elevated; get off at Ogden Ave.

RUSH MEDICAL COLLEGE. Same as for Presbyterian Hospital.

POSTGRADUATE HOSPITAL, 2400 Dearborn St. Take South State St. car; get off at Twenty-fourth St.

ST. LUKE'S HOSPITAL, 1426 Indiana Ave. Take Indiana Ave., Cottage Grove Ave. or South State St. car; get off at Thirteenth St. and walk east.

ST. MARY'S OF NAZARETH HOSPITAL, 545 North Leavitt St. Take Division St. car to Leavitt; cross town lines, Robey St. and Western Ave.

UNIVERSITY HOSPITAL, Lincoln and Congress Sts. Take Ogden Ave., Harrison or Van Buren St. cars; get off at Lincoln St.; or Metropolitan Elevated to Ogden Ave.

WESLEY HOSPITAL, 2449 Dearborn St. Reached by the State St. car line; get off at Twenty-fifth and State Sts. and walk one block west.

WEST SIDE HOSPITAL, 819 West Harrison St. Take Harrison St., Ogden Ave or Van Buren St. cars; get off at Lincoln St.; or take Metropolitan Elevated train and get off at Ogden Ave.

WILLARD HOSPITAL, 333 South Lincoln St. Take West Harrison St. or Ogden Ave. car, or Metropolitan Elevated; get off at Lincoln St. or Ogden Avenue.

HEADINGS.

To facilitate matters the clinics have been arranged under the following headings:

1. Medicine
2. General Surgery
3. Orthopedic Surgery
4. Gynecologic Surgery
5. Obstetrics
6. Neurology
7. Dermatology
8. Pediatrics
9. Ophthalmology and Otology
10. Genitourinary Surgery
11. Rhinology
12. Rectal Surgery
13. Electrotherapy
14. Pharmacy
15. Anatomy
16. Pathology
17. Hospitals

MEDICINE.

MONDAY, MAY 25.

Hospital and Instructor.	Hours.	Capacity Seat.	Capacity Stand.
Cook County, Goodkind	10:00-11:00	300	..
Cook County, Tice	11:00-12:00	300	..
Policlinic, Patton	4:00- 6:00	75	25
Rush Medical College, Billings	9:00-11:00	500	..
Postgraduate, Goldsmith	11:00-12:00	30	50
Postgraduate, Portis	3:00- 4:00	30	50
St. Mary's, Pietrowicz	10:00-11:00	50	..
West Side, Michel	2:00- 4:00	25	..
Provident, Grulle	8:00-11:00	...	10
Northwestern, Walls	10:00-12:00	200	..

TUESDAY, MAY 26.

Cook County, Herrick	9:00-11:00	300	..
Chi. Col. Med. & Surg., Seufert	3:00- 4:00	90	20
Chi. Col. Med. & Surg., Pietrowicz	3:00- 4:00	90	20
Policlinic, Williamson	5:00- 6:00	75	25
College P. and S., Williamson	1:00- 3:00	200	50
Mercy, Edwards	10:00-12:00	500	50
Cook County, Herrick	9:00-11:00	500	..
Postgraduate, Elliott	3:00- 4:00	30	50
Postgraduate, Mack	1:30- 2:30	30	..

Hospital and Instructor.	Hours.	Capacity Seat.	Capacity Stand.
TUESDAY, MAY 26.			
St. Mary's, Orth	8:00-10:00	50	..
St. Mary's, Pietrowicz	8:00-10:00	50	..
West Side, Wiggin	10:00-11:00	25	5
West Side, Calloway	10:00-11:00	25	..
Provident, Smith	11:00-12:00	...	10
Provident, Krost	11:00-12:00	...	..
WEDNESDAY, MAY 27.			
Cook County, Sippy	9:00-11:00	300	..
Cook County, Portis	4:00- 6:00	300	..
Policlinic, Fisher	4:00	75	25
St. Luke's, Preble	8:00- 9:00	65	25
Postgraduate, Goodwin	9:00-10:30	50	50
Postgraduate, Carr	3:00 4:00	50	50
Postgraduate, Turck	1:00- 3:00	50	50
Cook County, Sippy	9:00-11:00	500	..
St. Luke's, Preble	8:00- 9:00	65	25
St. Mary's, Stolz	10:00-11:00	50	..
Provident, Schoenfeld	8:00-11:00	...	10
Provident, Kindig	8:00-11:00	...	10
Michael Reese, Goodkind	8:00-12:00	30	20
Michael Reese, Rubel	8:00-12:00	30	20
THURSDAY, MAY 28.			
Cook County, Patton	9:00-10:00	300	..
Policlinic, Williamson	5:00- 6:00	75	25
Northwestern, Mix	11:00-12:00	130	25
Postgraduate, Portis	3:00- 4:00	50	50
Postgraduate, Goldsmith	11:00-12:00	...	..
Postgraduate, Mack	1:30- 2:30	50	..
Rush Medical College, Billings	9:00-11:00	500	..
St. Mary's, Pietrowicz	10:00-11:00	50	..
University, Heintz	11:00-12:00	75	..
FRIDAY, MAY 29.			
Cook County, Preble	8:00-10:00	300	..
Cook County, Mix	8:00-10:00	300	..
Policlinic, Patton	4:00- 5:00	75	25
Postgraduate, Elliott	3:00- 4:00	50	50
Postgraduate, Turck	1:00- 3:00	50	50
Rush Medical College, Herrick	9:00-11:00	500	..
St. Mary's, Orth	8:00-10:00	50	..
St. Mary's, Pietrowicz	8:00-10:00	50	..
West Side, Wiggins	10:00-12:00	25	..
Cook County, Harpole	8:00-10:00	300	..
SATURDAY, MAY 30.			
Policlinic, Fisher	4:00- 5:00	75	25
Policlinic, Williamson	5:00- 6:00	75	25
Postgraduate, Goodwin	9:30-10:30	...	..
Postgraduate, Carr	3:00- 4:00	50	50
Postgraduate, Pierce	2:00- 3:00	50	50
Rush Medical College, Sippy	9:00-11:00	500	..
St. Mary's, O'Malley	11:00-12:00	60	..
Cook County, Babcock	8:00- 9:00	300	..
Provident, Miller	8:00-10:00	...	10
Provident, Smith	8:00-10:00	...	10
MONDAY, JUNE 1.			
Cook County, Goodkind	10:00-12:00	300	..
Cook County, Tice	11:00-12:00	300	..
Cook County, Williamson	1:00- 3:00	300	..
Policlinic, Patton	4:00- 5:00	75	25
Postgraduate, Goldsmith	11:00-12:00	50	50
Postgraduate, Portis	3:00- 4:00	50	50
Postgraduate, Turck	1:00- 3:00	50	..
Rush Medical College, Billings	9:00-11:00	500	..
St. Mary's, Pietrowicz	10:00-11:00	50	..
West Side, Michel	2:00	25	..
Provident, Grulle	8:00-11:00	...	10
Provident, White	8:00-11:00	...	10
Mercy, Edwards	10:00-12:00	500	..
St. Joseph's, Small	10:00-12:00	...	15

GENERAL SURGERY.

MONDAY, MAY 25.			
Cook County, Davison	8:00-10:00	300	..
Postgraduate, A. B. Kanavel	11:00-12:00	300	..
Postgraduate, Cubbins	3:00- 4:00	300	..
St. Mary's, F. Laibe	8:30	50	..
College P. and S., T. A. Davis	1:00- 3:00	250	50
West Side, Blayney	1:00- 3:00	50	5
Willard, Fowler	11:00-12:00	90	20
Willard, Walsh	11:00-12:00	90	20
North Chicago, Beck	9:00-12:00	...	10
Policlinic, Harris	11:00-12:00	75	25
Presbyterian, Bevan	11:00- 1:00	500	..
Provident, Gillmore	2:00- 5:00	...	10
Provident, Williams	8:00-11:00	...	10
Provident, Hepburn	2:00- 5:00	...	10
Augustana, Ochsner	8:00-10:00	60	..
Mercy, E. W. Andrews	10:00-12:00	400	..
TUESDAY, MAY 26.			
University Hospital, Davison	1:00- 3:00	76	..
Postgraduate, Besley	10:00-11:00	300	..
St. Mary's, Percy	8:00-10:00	40	..
Augustana, Ochsner	8:00-12:00	60	..
West Side, Cowley	11:00-12:00	50	5
Willard, Shaw	10:00-11:00	90	20
Willard, Steckable	10:00-11:00	90	20
Children's Memorial, Kerr	3:00- 4:00	...	20
College P. and S., Williamson	1:00- 3:00	300	..
College P. and S., Dannin	1:00- 3:00	300	50
College P. and S., Ochsner	8:00-10:00	300	50
North Chicago, Beck	9:00-12:00	...	10
Policlinic, Hessert	11:00-12:00	75	25
Wesley, Schroeder	3:00- 5:00	200	..
Presbyterian, Murphy	11:00- 1:00	500	..
Cook County, Bouffleur	11:00- 1:00	300	..
Michael Reese, Eisendrath	8:00-10:00	30	..
WEDNESDAY, MAY 27.			
Postgraduate, Sullivan	10:00-11:00	300	..
Postgraduate, Cubbins	3:00- 4:00	...	..
St. Mary's, Schmitz	9:00-11:00	50	..
Augustana, Ochsner	8:00-12:00	60	..
College P. and S., Harsha	1:00- 3:00	250	50
Children's Memorial, Ryerson	3:00- 5:00	20	..
North Chicago, Beck	9:00-12:00	50	10
Policlinic, Smith	9:00-12:00	50	..
Policlinic, Rischar	11:00-12:00	75	25
Mercy, Murphy	9:00-12:00	500	..
Provident, Burrough	2:00- 5:00	...	10
Provident, Jones	2:00- 5:00	...	10
Alexian Bros., Allport	9:00-10:00	...	25
University, Fuller	1:00- 3:00	25	..
THURSDAY, MAY 28.			
Cook County, Davis	10:00-12:00	300	..
University, Steele	1:00- 3:00	75	..
Postgraduate, Kanavel, Richter and Besley	12:00	300	..
St. Mary's, Ochsner	10:00-12:00	50	..
St. Mary's, Percy	10:00-12:00	50	..
Augustana, Ochsner	8:00-12:00	50	..
Cook County, Eisendrath	10:00-12:00	300	..
West Side, Novashelsky	11:00-12:00	300	..
Willard, Rogers	10:00-12:00	90	20
Willard, Stewart	10:00-12:00	90	20
College P. and S., Davis	10:00-12:00	324	..
North Chicago, Beck	9:00-12:00	...	10
Policlinic, Harris	11:00-12:00	75	25
Policlinic, Morf	11:00-12:00	75	25
Presbyterian, Bevan	11:00- 1:00	500	..
Presbyterian, Lewis	11:00- 1:00	500	..
Mercy, Andrews	10:00-12:00	400	..
Augustana, Ochsner	8:00-10:00	60	..
FRIDAY, MAY 29.			
Presbyterian, Murphy	11:00- 1:00	300	..
Willard, Henderson	11:00-12:00	90	20
Willard, Wardle	11:00-12:00	90	20
Children's Memorial, Kerr	8:00- 9:00	20	20
Cook County, Halsted	10:00-12:00	300	..
Cook County, Andrews	2:00- 4:00	300	..
Cook County, Besley	10:00-12:00	300	..
North Chicago, Beck	9:00-12:00	...	10
Postgraduate, Besley	10:00-12:00	300	..
Postgraduate, Cubbins	3:00- 4:00	300	..
Policlinic, Hessert	11:00-12:00	30	..
Presbyterian, Lewis	11:00- 1:00	400	..
St. Mary's, Kuflewski	9:00-10:00	60	40
College P. and S., Ferguson	2:00- 4:00	250	..
College P. and S., Brown	2:00- 4:00	250	..
Augustana, Ochsner	8:00-12:00	60	..
Wesley, Plummer	3:00- 5:00	200	..
SATURDAY, MAY 30.			
Augustana, Ochsner	8:00-12:00	60	..
Cook County, Eisendrath	10:00-12:00	300	..
Cook County, Humiston	10:00-12:00	300	..
Mercy, Murphy	9:00-12:00	550	50
North Chicago, Beck	9:00-12:00	...	10
Postgraduate, Sullivan	10:00-11:00	300	..
Postgraduate, Richter	4:00- 5:00	...	..
Policlinic, Smith	11:00-12:00	75	25
Policlinic, Rischar	11:00-12:00	75	25
Rush Medical College, Graham	2:00- 4:00	500	..
Rush Medical College, Senn	2:00- 4:00	500	..
St. Mary's, Mueller	8:00-10:00	40	..
University, Steele	1:00- 3:00	75	..
University, Fuller	1:00- 3:00	75	..
Provident, Hall	8:00-11:00	...	10
Provident, Fox	8:00-11:00	...	10
Provident, William	2:00- 5:00	...	10
Provident, McKlesik	2:00- 5:00	...	10
Michael Reese, McArthur	8:00-12:00	30	20
Michael Reese, Andrews	8:00-12:00	30	20
Michael Reese, Eisendrath	8:00-12:00	30	20
Michael Reese, Friend	8:00-12:00	30	20
Michael Reese, Greensfelder	8:00-12:00	30	20
Jenner Medical Coll., Breakstone	3:00- 5:00	150	..
MONDAY, JUNE 1.			
Willard, Fowler	11:00-12:00	90	20
Willard, Walsh	11:00-12:00	90	20
Cook County, Davison	8:00-10:00	300	..
Englewood, Bacon	9:00-11:00	...	25
North Chicago, Beck	9:00-12:00	...	10
Policlinic, Harris	11:00-12:00	75	25
Policlinic, Kerr	11:00-12:00	75	25
Policlinic, McMartin	11:00-12:00	75	25
Rush Medical College, Bevan	11:00- 1:00	500	..
Rush Medical College, Lewis	11:00-12:00	500	..
St. Mary's, Laibe	8:30	50	..
West Side, Davis	1:00- 3:00	250	50
Provident, Williams	8:00-11:00	...	10
Alexian Bros., Allport	9:00-10:00	...	15
Mercy, Andrews	10:00-12:00	550	..

ORTHOPEDIC SURGERY.

MONDAY, MAY 25.			
Cook County, Ryerson	3:00- 4:00	300	..
Postgraduate, Hardon	10:00-11:00	30	50
Policlinic, Ryerson	1:00- 2:00	75	25
Policlinic, Morton	1:00- 2:00	75	25
TUESDAY, MAY 26.			
St. Mary's, Mueller	8:00-10:00	40	..

WEDNESDAY, MAY 27.

Hospital and Instructor.	Hours.	Capacity Seat.	Stand.
Policlinic, Ryerson	1:00- 2:00	75	25
Policlinic, Morton	1:00- 2:00	75	25

THURSDAY, MAY 28.

Postgraduate, Hardon	10:00-11:00	30	50
Cook County, Porter	9:00-10:00	100	..

FRIDAY, MAY 29.

Policlinic, Ryerson	1:00- 2:00	75	25
Policlinic, Morton	1:00- 2:00	75	25
Home Crippled Children, Ridlon	1:00- 3:00	...	25

SATURDAY, MAY 30.

Cook County, Porter	9:00-10:00	300	..

MONDAY, JUNE 1.

Cook County, Ryerson	3:00- 4:00	...	..
Policlinic, Ryerson	1:00- 2:00	75	25
Postgraduate, Hardon	10:00-11:00	30	50

GYNECOLOGIC SURGERY.

MONDAY, MAY 25.

Policlinic, Banga	10:00-11:00	75	25
West Side, Corbett	3:00- 4:00	20	5
Wesley, Watkins	8:00-10:00	200	..
Postgraduate, Ries	9:00-10:00	300	..
Mercy, W. S. Barnes	8:00- 9:00	300	..

TUESDAY, MAY 26.

Policlinic, Keyes	3:00	75	25
Policlinic, Barrett	10:00	...	..
West Side, Moorhead	9:00	20	5
Postgraduate, Martin	9:00-10:00	300	..
Postgraduate, Goldspohn	10:00-12:00	300	..
Mary Thomson, Waite	2:00- 4:00	...	35
Mary Thomson, Conklin	2:00- 4:00	...	35

WEDNESDAY, MAY 27.

Policlinic, Lewis	10:00-11:00	75	25
Presbyterian, Webster	11:00- 1:00	100	..
St. Luke's, Frankenthal	9:00-11:00	70	..
West Side, Thomson	10:00-11:00	50	5
Michael Reese, Banga	8:00-12:00	...	8
Chi. Coll. Med. & Surg., Tucker	10:00-11:00	90	20
Chi. Coll. Med. & Surg., McDermot	10:00-11:00	90	20

THURSDAY, MAY 28.

Policlinic, Banga	10:00-11:00	75	25
Policlinic, Keyes	3:00- 4:00	...	..
West Side, West	9:00-11:00	50	5
West Side, Davis	1:00- 3:00	...	..
Postgraduate, Ries	9:00-10:00	300	..

FRIDAY, MAY 29.

Mercy, Andrews	8:00-10:00	400	..
Policlinic, Barrett	10:00-11:00	75	25
Policlinic, Keyes	3:00- 4:00	...	..
West Side, Moorhead	9:00-10:00	20	5
Wesley, De Lee		300	..
Postgraduate, Martin	9:00-10:00	300	..
Mary Thomson, Waite	2:00- 4:00	...	25
Mary Thomson, Braunwarth	2:00- 4:00	...	25

SATURDAY, MAY 30.

Policlinic, Lewis	10:00-11:00	75	25
Presbyterian, Webster	11:00-1:00	100	..
West Side, Van Hoosen	8:00-10:00	250	50
Postgraduate, Goldspohn	10:00-12:00	300	..

MONDAY, JUNE 1.

Englewood, Hagens	11:00- 1:00	...	25
Evangelical, Goldspohn	9:00-10:00	...	10
Policlinic, Banga	10:00-12:00	75	25
West Side, Corbett	3:00- 4:00	20	5
Postgraduate, Martin	9:00-10:00	300	..
Wesley, Watkins	2:00- 4:00	225	..

OBSTETRICS.

MONDAY, MAY 25.

Maternity, Davis	10:00-12:00	6	..
University, Bacon	10:00-12:00	6	..

WEDNESDAY, MAY 27.

Maternity, Davis	10:00-12:00	6	..
University, Bacon	11:00-12:00	6	..

FRIDAY, MAY 29.

Maternity, Davis	10:00-12:00	6	..
University, Alrutz	11:00-12:00	6	..
Michael Reese, Carry	8:00-12:00	...	8
Michael Reese, Schram	8:00-12:00	...	8
Michael Reese, Simon	8:00-12:00	...	8
Provident, De Lee	2:00- 5:00	10	..
Provident, Robeson	2:00- 5:00	10	..

SATURDAY, MAY 30.

University, Davis	11:00-12:00	6	..
University, Goldstine	11:00-12:00	6	..

MONDAY, JUNE 1.

Maternity, Davis	10:00-12:00	6	..
University, Bacon	10:00-12:00	6	..

NEUROLOGY.

MONDAY, MAY 25.

Policlinic, Walker	2:00- 4:00	75	25
Postgraduate, Grinker	4:00- 5:00	30	50

TUESDAY, MAY 26.

College P. & S., King	3:00- 4:00	200	50

WEDNESDAY, MAY 27.

Hospital and Instructor.	Hours.	Capacity Seat.	Stand.
Policlinic, Healy	2:00 3:00	75	25
Postgraduate, Grinker	4:00- 5:00	30	50
Rush Medical College, Brower	9:00-11:00	100	..
St. Mary's, Heym	11:00-12:00	40	..

THURSDAY, MAY 28.

Cook County, Kuh	4:00- 6:00	...	..
Cook County, Bassoe		...	..
Alexian Brothers, Heym	10:00-11:00	25	..
Michael Reese, Kuh	9:00-12:00	25	..
Michael Reese Hecht	9:00-12:00	25	..

FRIDAY, MAY 29.

Willard, Heym	10:00-11:00	90	20
Willard, Atkinson	10:00-11:00	90	20
Policlinic, Gill	2:00- 3:00	75	25
Cook County, Brown	4:00- 6:00	...	..
Postgraduate, Grinker	4:00- 5:00	30	50

MONDAY, JUNE 1.

Chicago Policlinic, Walker	2:00- 3:00	75	25
Postgraduate, Grinker	4:00- 5:00	30	50

DERMATOLOGY.

MONDAY, MAY 25.

Cook County, Pusey	2:00- 3:00	100	..
Policlinic, Anthony	9:00-11:00	75	25
Rush Medical College, Hyde	2:00- 4:00	500	..
Rush Medical Coll., Montgomery	2:00- 4:00	500	..
West Side, Ormsby	4:00- 5:00	25	5
West Side, Mackay	4:00- 5:00	25	..
Postgraduate, Rogers	2:00- 4:00	50	..

TUESDAY, MAY 26.

Cook County, Ormsby	2:00- 3:00	100	..
Willard, Fischkin	2:00- 3:00	90	20
Willard, Beck	2:00- 3:00	90	20
Willard, Welfeld	2:00- 3:00	90	20
Postgraduate, Baum	2:00- 4:00	50	..

WEDNESDAY, MAY 27.

Policlinic, Campbell	9:00-10:00	75	25
Postgraduate, Baum	2:00- 4:00	50	..

THURSDAY, MAY 28.

Policlinic, Anthony	9:00-10:00	75	25
Rush Medical College, Hyde	2:00- 4:00	500	..
Rush Medical Coll., Montgomery		...	..
West Side, Ormsby	4:00- 5:00	25	5
West Side, Mackay		...	..
Postgraduate, Rogers	2:00- 4:00	50	..

SATURDAY, MAY 30.

Policlinic, Campbell	9:00-10:00	75	25
Postgraduate, Baum	2:00- 4:00	50	..

MONDAY, JUNE 1.

Cook County, Pusey	2:00- 3:00	...	..
Policlinic, Anthony	9:00-10:00	75	25
Rush Medical College, Hyde		...	..
Rush Medical Coll., Montgomery	2:00- 4:00	500	..
West Side, Ormsby	4:00- 5:00	25	5
Postgraduate, Rogers	2:00- 4:00	50	

PEDIATRICS.

MONDAY, MAY 25.

Northwestern, Walls	10:00-12:00	96	..
Postgraduate, Black	4:30- 5:30	30	50
Michael Reese, Abt	8:00-12:00	...	20
Michael Reese, Lockner	8:00-12:00	...	20
Michael Reese, Hess	8:00-12:00	...	20

TUESDAY, MAY 26.

Cook County, Butler	4:00- 5:00	...	..
Policlinic, Quinlan	9:00-10:00	75	25
Postgraduate, Allen	4:30- 5:30	30	50
Rush Medical College, Dodson	9:00-11:00	100	..
University, French	2:00- 3:00	76	..
University, Maselska	2:00- 3:00	76	..
West Side, Hatfield	1:30	25	5
West Side, Frende	10:00-12:00	25	..

WEDNESDAY, MAY 27.

Cook County, Abt	4:00- 5:00	...	..
Policlinic, Kleinpell	3:00- 4:00	25	5
Postgraduate, Krost	4:30- 5:30	30	50
West Side, Strauch	1:00- 2:00	25	5

THURSDAY, MAY 28.

Postgraduate, Allen	4:30- 5:30	30	50
Postgraduate, Silverthorn		...	..
West Side, Benson	1:00- 2:00	500	25

FRIDAY, MAY 29.

Policlinic, Quinlan	9:00-10:00	75	25
Postgraduate, Black	4:30- 5:30	30	50
Rush Medical College, Dodson	9:00-11:00	100	..
University, French	2:00- 3:00	76	..
University, Maselska			
West Side, Hatfield	1:30	25	5
West Side, French			

SATURDAY, MAY 30.

Cook County, Koehler	1:00- 2:00	...	..
Willard, Wolfe	10:00-11:00	90	20
Willard, Romenger	10:00-11:00	90	20
Policlinic, Kleinpell	3:00	75	25
Postgraduate, Krost	4:30- 5:30	30	50
West Side, Strauch	1:00	25	5

MONDAY, JUNE 1.

Hospital and Instructor.	Hours.	Capacity Seat.	Capacity Stand.
Postgraduate, Black	4:30- 5:30	50	50

OPHTHALMOLOGY AND OTOLOGY.

MONDAY, MAY 25.

Willard, Barr	2:00- 3:00	90	20
Willard, von der Heydt	2:00- 3:00	90	20
Policlinic, Wilder	9:00-10:00	75	25
Policlinic, Hager	9:00-10:00	75	25
Policlinic, Fiske	3:00	75	25
Postgraduate, Patillo	9:00-10:00	30	50
Postgraduate, Coleman	4:00- 5:00	30	50
Rush Medical College, Wilder	2:00- 4:00	500	..
West Side, Baum	3:00- 4:00	25	..
Ill. Eye & Ear Infirm., W. A. Waner	2:00- 4:00	...	10

TUESDAY, MAY 26.

Policlinic, Mahoney	9:00-10:00	75	25
Policlinic, Pierce	3:00- 4:00	75	25
Policlinic, Menhardt	3:00- 4:00	75	25
Postgraduate, Suker	9:00-10:00	30	50
Postgraduate, Hawley	4:00- 5:00	30	50
Provident, Thomas	9:00-12:00	...	10
Ill. Eye & Ear Infirm., C. H. Beard	2:00- 4:00	...	10
Ill. Eye & Ear Infirm., W. H. Barr.	2:00 -4:00	...	10

WEDNESDAY, MAY 27.

Chi. Coll. Med. and Surg., Good	3:00- 4:00	90	20
Chi. Coll. Med. and Surg., Schultz.	3:00- 4:00	30	20
Policlinic, Wilder	9:00-10:00	75	25
Policlinic, Hager	9:00-10:00	75	25
Policlinic, Hall	3:00- 4:00	75	25
Postgraduate, Suker	4:00- 5:00	30	50
College of P. and S., Gamble	3:00- 4:00	...	..
Provident, McKinley	9:00-12:00	...	10
Ill. Eye & Ear Infirm., O. Dodd	2:00- 4:00	...	10
Ill. Eye & Ear Infirm., D. C. Ovault	2:00- 4:00	...	10
Mercy, Tivnen	8:00- 9:00	300	..

THURSDAY, MAY 28.

Policlinic, Mahoney	9:00-10:00	75	25
Policlinic, Fiske	3:00- 4:00	75	25
St. Luke's, Allport	2:00- 6:00	65	25
St. Luke's, Wood	2:00- 6:00	65	25
Postgraduate, Patillo	9:00-10:00	30	50
Postgraduate, Hawley	4:00- 5:00	30	50
St. Luke's, Allport	2:00- 6:00	30	..
St. Luke's, Wood	2:00- 6:00	30	..
St. Luke's, Woodruff	2:00- 6:00	30	..
St. Luke's, Guilford	2:00- 6:00	30	..
West Side, McCreigle	1:00- 3:00	25	5
Provident, Albio	9:00-12:00	...	10
Provident, Mann	9:00-12:00	...	10
Ill. Eye & Eye Infirm. E. V. L. Brown	2:00- 4:00	...	10
Ill. Eye & Ear Infirm., von der Heydt	2:00- 4:00	...	10
Ill. Eye & Ear Infirm., Wilder	2:30- 3:30	...	10

FRIDAY, MAY 29.

Policlinic, Wilder	9:00-10:00	95	25
Policlinic, Hager	9:00-10:00	95	25
Policlinic, Hall	3:00- 4:00	75	25
Wesley, Allport	2:00- 4:00	200	..
Wesley, Wood	2:00- 4:00	200	..
Postgraduate, Patillo	9:00-10:00	30	50
Postgraduate, Coleman	4:00- 5:00	30	50
Rush Medical College, Wilder	2:00- 4:00	500	...
Rush Medical College, Shambaugh.	2:00- 4:00	500	..
Wesley, Allport	2:00- 4:00	30	..
Wesley, Wood	2:00- 4:00	30	..
Wesley, Woodruff	2:00- 4:00	30	..
Wesley, Guilford	2:00- 4:00	30	..
West Side, Noble	2:00- 4:00	25	5
Provident, Aculist	9:00-12:00	...	10
Ill. Eye & Ear Infirm., Woodruff	2:00- 4:00	...	10
Ill. Eye & Ear Infirm., Remner	2:00- 4:00	...	10

SATURDAY, MAY 30.

Policlinic, Mahoney	9:00-10:00	75	25
Policlinic, Pierce	3:00- 4:00	75	25
Postgraduate, Hawley	9:00-10:00	30	50
Postgraduate, Suker	4:00- 5:00	30	50
Ill. Eye & Ear Infirm., E. V. L. Brown	2:00- 4:00	...	10
Ill. Eye & Ear Infirm., von der Heydt	2:00- 4:00	...	10

MONDAY, JUNE 1.

Willard, Barr	2:00- 3:00	90	30
Willard, von der Heydt	2:00- 3:00	90	30
Policlinic, Wilder	9:00-10:00	75	25
Policlinic, Hager	9:00-10:00	75	25
Policlinic, Fiske	3:00- 4:00	75	25
Postgraduate, Patillo	9:00-10:00	30	50
Postgraduate, Coleman	4:00- 5:00	30	50
Rush Med. College, Wilder	2:00- 4:00	500	...
West Side, Barr	3:00- 4:00	25	..
Ill. Eye & Ear Infirm., Werner	2:00- 4:00	...	15

GENITOURINARY SURGERY.

MONDAY, MAY 25.

Policlinic, Schmidt	4:00- 5:00	75	25
Policlinic, Friedrich	4:00- 5:00	75	25
Rush Medical College, Belfield	4:00- 6:00	75	..
Rush Medical College, Patton	4:00- 6:00	75	25
Rush Medical College, Herbst	4:00- 6:00	75	25

TUESDAY, MAY 26.

Policlinic, Belfield	4:00- 6:00	75	25
Policlinic, Patton	4:00- 6:00	75	25
Rush Medical College, Herbst	3:00- 4:00	75	75
Provident, Stewart	2:00- 5:00	...	10
Provident, Mowry	2:00- 5:00	...	10

WEDNESDAY, MAY 27.

Policlinic, Schmidt	4:00- 6:00	75	25
Policlinic, Friedrich	4:00- 6:00	75	25
Provident, Weber	2:00- 5:00	...	10

THURSDAY, MAY 28.

Chi. Coll. Med. & Surg., Nagel	3:00- 4:00	90	20
Chi. Coll. Med. & Surg., Berthing	3:00- 4:00	90	20
Policlinic, Belfield	4:00- 6:00	75	25
Policlinic, Herbst	4:00- 6:00	75	25

FRIDAY, MAY 29.

Policlinic, Schmidt	4:00- 6:00	75	25
Rush Medical College, Belfield	4:00- 6:00	75	..
Rush Medical College, Herbst	4:00- 6:00	...	..
West Side, Kreissl	1:00- 2:00	25	5
West Side, Nagel	1:00- 2:00	25	5

SATURDAY, MAY 30.

Policlinic, Whalen	4:00- 5:00	75	25
Rush Medical College, Herbst	3:00- 4:00	75	75

MONDAY, JUNE 1.

Policlinic, Schmidt	4:00- 6:00	75	25
Policlinic, Friedrich			
Rush Medical College, Belfield	4:00- 6:00	75	25
Rush Medical College, Patton	4:00- 6:00	75	25
Rush Medical College, Herbst			

RHINOLOGY.

MONDAY, MAY 25.

Chi. Eye, Ear, Nose and Throat, Woodruff	11:00- 1:00	30	..
Policlinic, Robertson	11:00- 1:00	30	..
Policlinic, Bick	11:00- 1:00	30	..
North Chicago, Beck	3:00- 5:00	...	10
North Chicago, Hughes	3:00- 5:00	...	10
Postgraduate, Stein	2:00- 3:00	50	..
Postgraduate, McGuire	3:00- 4:00	50	..
Chi. Eye and Ear Infirm., Davey	2:00- 4:00	15	..
Michael Reese, Pierce	9:00-10:00	12	..
Michael Reese, Frank	9:00-10:00	12	..

TUESDAY, MAY 26.

Chi. Eye, Ear, Nose and Throat, Wiffern	11:00- 1:00	30	..
Policlinic, Freer			
Northwestern, McGuire	10:00-12:00	96	..
Northwestern, Marquis	10:00-12:00	96	..
Postgraduate, Campbell	2:00- 3:00	50	..
Postgraduate, Head	3:00- 4:00	50	..
Ill. Eye & Ear Infirm., Boettcher	2:00- 4:00	...	15
Ill. Eye and Ear Infirm., Hager	2:00- 4:00	...	15
Michael Reese, Morgenthau	9:00-10.30	12	..
Alexian Bros., Holinger	9:00-10:00	...	25
Ill. Eye & Ear Infirm., Barr	2:00- 4:00	20	..
Ill. Eye & Ear Infirm., Beard	2:00- 4:00	20	..

WEDNESDAY, MAY 27.

Chi. Eye, Ear, Nose and Throat, Hoffmann	11:00- 1:00	30	..
Policlinic, Robertson	11:00- 1:00	30	..
Policlinic, Bick	11:00- 1:00	30	..
College of P. and S., Harper	3:00- 4:00	250	50
College of P. and S., Gamble			
North Chicago, Beck	3:00- 5:00	...	10
North Chicago, Hughes	3:00- 5:00	...	10
Rush Medical College, Whalen	2:00- 4:00	500	..
Rush Medical College, E. F. Ingals.	2:00- 4:00	500	..
West Side, Guthrie	2:00- 4:00	10	3
Postgraduate, Stein	2:00- 3:00	50	..
Postgraduate, Macguire	3:00- 4:00	50	..
Ill. Eye & Ear Infirm., Pierce	3:00- 4:00	50	..
Ill. Eye & Ear Infirm., Meinhardt.	2:00- 4:00	...	15

THURSDAY, MAY 28.

Chi. Eye, Ear, Nose and Throat, Gardiner	2:00- 3:00	30	..
Policlinic, Freer	2:00- 3:00	30	..
West Side, Hawley	1:00- 2:00	10	..
Postgraduate, Campbell	1:00- 3:00	50	..
Postgraduate, Head	3:00- 4:00	50	..
Ill. Eye & Ear Infirm., Davey	3:00- 4:00	...	15
Ill. Eye & Ear Infirm., Spiece	2:00- 4:00	...	15
Michael Reese, Pierce	9:00-10:00	12	..
Michael Reese, Frank	2:00- 4:00	...	..

FRIDAY, MAY 29.

Chi. Eye, Ear, Nose and Throat. Woodruff	11:00- 1:00	30	..
Policlinic, Robertson			
Policlinic, Bick			
College of P. and S., Ballenger	10:00-12:00	250	50
Wesley, Menger	10:00-12:00	200	..
West Side, Gorwin	2:00	10	..
Postgraduate, Stein	2:00- 3:00	50	..
Postgraduate, Macguire	3:00- 4:00	...	15
Ill. Eye & Ear Infirm., Boettcher	2:00- 4:00	...	..
Ill. Eye & Ear Infirm., Hager	2:00- 4:00	...	..
Michael Reese, Morgenthau	9:00-10:00	12	..

SATURDAY, MAY 30.

Hospital and Instructor.	Hours.	Capacity Seat.	Capacity Stand.
Chi. Eye, Ear, Nose and Throat..			
Wiffern	11:00- 1:00	30	..
Policlinic, Freer	11:00- 1:00	30	..
College of P. and S., Brown	3:00- 4:00	250	50
Postgraduate, Campbell	2:00- 3:00	50	..
Postgraduate, Long	3:00- 4:00	50	..
Ill. Eye & Ear Infirm., Pierce	2:00- 4:00	...	15
Ill. Eye & Ear Infirm., Meinhardt	2:00- 4:00	...	15

MONDAY, JUNE 1.

Chi. Eye, Ear, Nose and Throat.			
Tydinger	3:00- 6:00	30	..
Policlinic, Robertson			
Policlinic, Bick			
North Chicago, Beck	3:00- 5:00	10	..
North Chicago, Hughes			
Postgraduate, Stein	2:00- 3:00	50	..
Postgraduate, Macguire	3:00- 4:00	50	15
Ill., Eye & Ear Infirm., Davey	2:00- 4:00	...	15
Ill. Eye & Ear Infirm., Spiece	2:00- 4:00	...	..

RECTAL SURGERY.

TUESDAY AND THURSDAY, MAY 26 AND 28.

Policlinic, Pennington	2:00- 3:00	75	25

ELECTROTHERAPY.

MAY 20, 27, 29 AND JUNE 1.

West Side, J. H. Carpenter	1:00	25	5

ANATOMY.

WEDNESDAY, MAY 27.

College P. and S., Havelin	9:00-10:00	100	..
College P. and S., White	9:00-10:00	100	..

FRIDAY, MAY 29.

Policlinic, Gronnerud	8:00-10:00	500	..
Policlinic, Parkes	8:00-10:00	500	..

SATURDAY, MAY 30.

Policlinic, Gronnerud	8:00-10:00	500	..
Policlinic, Parkes	8:00-10:00	500	..

MONDAY, JUNE 1.

Policlinic, Gronnerud	8:00-10:00	500	..
Policlinic, Parkes	8:00-10:00	500	..

PATHOLOGY.

MAY 25, JUNE 20.

*(*Exhibit in Pathology and Pathologic Anatomy in Library Building.*)

Rush Medical College, Daily	9:00- 4:00		

TUESDAY, MAY 26.

Michael Reese, Herzog	8:00-12:00	...	300

MONDAY, MAY 25.

Cook County, Evans	8:00-10:00	300	..
College P. and S., Cooke	9:00-11:00	50	..

SATURDAY, MAY 30.

Cook County, Harris	8:00-10:00	...	..

MONDAY, JUNE 1.

Cook County, Le Count	11:00-12:00	300	..

Queries and Minor Notes

ORIGIN OF THE SYMBOL OF ÆSCULAPIUS.

NEWBURGH, N. Y., April 27, 1908.

To the Editor:—Will you please tell me the origin and meaning of the insignia of Æsculapius—the rod with the serpent entwined? M. E. D.

ANSWER.—The serpent in oriental lore is the symbol of foresight and wisdom, a fact familiar to all readers of the Hebrew scriptures. It has always played a considerable part in medicine and religion, both before and after their separation. Early Greek medicine, no doubt, had its origin in oriental sources. The Æsculapius of the Greeks corresponded with Eshmoun of the Phœnicians and Serapis of the Egyptians, both of which gods had the serpent as a supporter, Serapis particularly as a symbol of health. This conception of the serpent appears to have been derived from the belief that it perpetually renewed itself by casting its slough. An illustration of this attribute of renovation is seen in the brazen serpent (Numbers, xxi, 8) that healed those bitten by the fiery serpents. The serpent was always cherished about the temples of Æsculapius. Livy tells us that when the Romans, in 461, B. C., being afflicted with a pestilence, sent an embassy to the temple at Epidaurus, the serpent came out to them—which was taken as an interposition of the god in their favor—and of its own accord went to their ship and accompanied them back to Rome. It took refuge on an island in the Tiber, on which a temple to Æsculapius was erected in the following year. Serpents were also sent from Æsculapian temples to other places, in response to calls for aid in time of pestilence. Moreover, according to one myth, Æsculapius, the son of Apollo by the nymph Coronis, sprang in the figure of a serpent from a crow's egg. The serpent, therefore, is the commonest of all the emblems of Æsculapius (and consequently of the healing art) being sometimes held in his hand, sometimes encircling his body, sometimes twined round his staff, and sometimes coiled below his statue. It symbolizes the foresight and wisdom of the physician and his function of restoring to health.

ANATOMIC JOURNALS FOR MEDICAL STUDENTS.

We named some anatomic journals in THE JOURNAL, May 2. Dr. C. R. Bardeen, dean of the College of Medicine, of the University of Wisconsin, calls attention to the *American Journal of Anatomy* and the *Anatomical Record*, both of which are published under the auspices of the Wistar Institute of Anatomy of Philadelphia. The *American Journal of Anatomy* is a strictly scientific and technical journal, but the *Anatomical Record* is of a more popular character and might appeal to medical students especially interested in anatomy.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending May 9, 1908:

Williams, A. W., captain, medical corps, relinquished leave of absence and proceeded to duty at Fort H. G. Wright, N. Y.

Grissinger, J. W., captain, medical corps, left Fort Ethan Allen, Vt., on leave of absence for two months.

Browniee, C. Y., captain, medical corps, left Pacific Branch, U. S. Military Prison, Alcatraz Island, Cal., for duty as surgeon of the transport *Sheridan*.

Morse, A. W., captain, medical corps, left Fort Leavenworth, Kans., on leave of absence for ten days.

Craig, E. J., dental surgeon, ordered to Fort Omaha, Neb., for temporary duty.

Whinnery, J. C., dental surgeon, arrived at Fort Stevens, Oregon, for temporary duty.

Whiteley, J. H., cont.-surgeon, granted leave of absence for fifteen days.

Harmon, D. W., cont.-surgeon, ordered to Fort Michie, N. Y., for temporary duty.

Drake, P. G., cont.-surgeon, left Fort Ethan Allen, Vt., on leave of absence for ten days.

Wall, F. M., cont.-surgeon, left Fort Oglethorpe, Ga., for duty at Rifle Range, Catoosa Springs, Ga.

Whiteley, J. H., cont.-surgeon, granted leave of absence for fifteen days.

Lincoln, H. F., cont.-surgeon, ordered to San Francisco to accompany Troop G, 14th Cavalry, to duty in Sequioa National Park.

Stephenson, A. V., cont.-surgeon, and McAlister, J. A., Jr., dental surgeon, left San Francisco on the *Sheridan* for Philippine service.

Kress, C. C., cont.-surgeon, arrived at Fort Bliss, Texas, for duty.

Navy Changes.

Changes in the medical corps of the Navy for the week ending May 9, 1908:

Cook, F. C., surgeon, orders to the *North Carolina* revoked; ordered to continue duty at the Naval Academy.

Warner, R. A., asst.-surgeon, detached from the Naval Hospital, Pensacola, Fla., and ordered to Washington, D. C., May 7, for examination for promotion and then to await orders.

Miller, J. T., asst.-surgeon, detached from the *Franklin* and ordered to the *North Carolina* when commissioned.

Strite, C. E., asst.-surgeon, ordered to the *Franklin*.

Jones, A. McK., acting asst.-surgeon, detached from the naval recruiting station, Des Moines, Iowa, and resignation accepted to take effect May 1, 1908.

Melhorn, K. C., McGuire, L. W., asst.-surgeons, appointed asst.-surgeons from April 11, 1908.

McMurdo, H. B., asst.-surgeon, appointed acting asst.-surgeon from April 15, 1908.

Belknap, J. L., asst.-surgeon, detached from the naval training station, Newport, R. I., and resignation accepted to take effect May 6, 1908.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ended May 6, 1908:

Kerr, J. W., assistant surgeon-general, detailed to represent the service at the meeting of the National Association for the Prevention of Tuberculosis, to be held in Chicago, June 4-6, 1908; also directed to attend the meeting of the National Association of the Milk Commissions at Chicago, June 1, 1908.

Carmichael, D. A., surgeon, granted leave of absence for 14 days, from May 27, 1908.

McIntosh, W. P., surgeon, directed to proceed to Vanceboro and other points in Maine for special temporary duty, on completion of which to rejoin his station.

Gardner, C. H., passed asst.-surgeon, detailed as a member of a Revenue-Cutter Service Retiring Board, to meet at San Francisco, May 12, 1908.

Hobdy, W. C., passed asst.-surgeon, detailed as a member of a Revenue-Cutter Service Retiring Board, to meet at San Francisco, May 12, 1908.

Foster, A. D., passed asst.-surgeon, granted leave of absence for one day, April 16, 1906, under Paragraph 191, Service Regulations.

Drew, A. D., acting asst.-surgeon, granted leave of absence for 30 days, from June 3, 1908.

Holland, D. J., acting asst.-surgeon, granted leave of absence for 5 days, from May 4, 1908, under Paragraph 210, Service Regulations.

Keatley, H. W., acting asst.-surgeon, granted leave of absence for 1 day, April 30, 1908, under Paragraph 210, Service Regulations.

Stanton, J. G., acting asst.-surgeon, granted leave of absence for 27 days, on account of sickness, from April 4, 1908.

Stuart, A. F., acting asst.-surgeon, granted leave of absence for 21 days, from May 15, 1908.

Walker, T. D., acting asst.-surgeon, granted leave of absence for 4 days, from May 1, 1908.

Wetmore, W. O., acting asst.-surgeon, granted leave of absence for one day, April 24, 1908, under Paragraph 210, Service Regulations.

Wilson, J. G., acting asst.-surgeon, leave of absence reported to have been granted Acting Asst.-Surgeon Wilson for two days in March, 1908, amended to read for one day only.

BOARD CONVENED.

A board of medical officers was convened, May 2, 1908, to meet at Seattle, Wash., to make physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Passed Asst.-Surgeon N. W. Glover, chairman; Asst.-Surgeon C. W. Chapin, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 8, 1908:

SMALLPOX—UNITED STATES.

California: San Francisco, April 11-18, 15 cases.
District of Columbia: Washington, April 15-25, 2 cases.
Illinois: Chicago, April 15-25, 7 cases; Galesburg, April 18-25, 3 cases; Rock Island, 1 case; Springfield, April 16-23, 3 cases.
Indiana: Ft. Wayne, April 18-25, 1 case; Indianapolis, April 19-26, 24 cases.
Iowa: Ottumwa, April 18-25, 8 cases.
Kansas: Topeka, April 11-25, 31 cases.
Louisiana: New Orleans, April 18-25, 5 cases, 1 death.
Michigan: Detroit, April 16-25, 3 cases; Grand Rapids, 5 cases; Kalamazoo, April 11-18, 3 cases; Port Huron, 1 case.
Missouri: Kansas City, April 18-25, 16 cases; St. Joseph, 16 cases; St. Louis, 7 cases.
Montana: Butte, April 14-21, 1 case.
Nebraska: Nebraska City, April 19-25, 5 cases.
Ohio: Cincinnati, April 17-24, 13 cases; Toledo, April 11-18, 1 case.
Tennessee: Nashville, April 18-25, 3 cases.
Texas: Galveston, April 17-24, 1 case; San Antonio, April 11-25, 21 cases.
Virginia: Richmond, April 18-25, 1 case.
Washington: Spokane, April 11-18, 12 cases.
Wisconsin: La Crosse, April 18-25, 5 cases; Milwaukee, April 11-25, 3 cases; Racine, April 18-25, 4 cases.

SMALLPOX—FOREIGN.

Algeria: Algiers, March 1-31, 2 deaths.
Arabia: Aden, March 30-April 6, 1 death.
Brazil: Manaoas, March 21-28, 2 cases; Para, March 28-April 11, 2 cases, 1 death.
Canada: Halifax, April 18-25, 4 cases; Toronto, March 21-April —, 18 cases; Winnipeg, April 1-18, 1 case.
Ecuador: Guayaquil, March 28-April 4, 2 deaths.
Cairo: March 25-April 8, 12 cases, 4 deaths.
France: Paris, April 4-11, 5 cases; Toulon, March 1-31, 8 cases.
Great Britain: Leith, April 4-11, 1 case.
India: Bombay, March 24-31, 67 deaths.
Italy: General, April 9-16, 67 cases; Catania, April 9-16, 1 case; Naples, April 4-11, 1 case (imported).
Japan: Kobe, March 21-28, 23 cases, 13 deaths; Osaka, 238 cases, 96 deaths.
Malta: March 21-April 4, 3 cases, 1 death.
Mexico: Aguas Calientes, April 12-19, 3 deaths; Monterey, April 5-12, 1 death; Vera Cruz, April 13, 1 case (imported).
Russia: Moscow, March 28-April 4, 43 cases, 13 deaths; Odessa, 1 case; St. Petersburg, March 21-April 4, 42 cases, 16 deaths.
Spain: Almeira, March 1-31, 1 death; Cadiz, 1 death; Denia, April 3-10, 10 cases, 3 deaths; Valencia, April 5-12, 30 cases, 3 deaths; Vigo, April 4-11, 1 death.
Straits Settlements: Penang, March 11-21, 1 death; Singapore, March 7-14, 1 death.
Turkey: Constantinople, March 22-April 2, 20 cases.
Zanzibar: March 7-14, 1 death.

YELLOW FEVER.

Barbadoes: Bridgetown, April 18, 1 case, 1 death.
Brazil: Manaos, March 21-April 4, 6 cases, 6 deaths; Para, March 28-April 11, 10 cases, 8 deaths.
Cuba: Santiago, May 2, 1 case.
Ecuador: Guayaquil, March 28-April 4, 5 deaths.

CHOLERA.

India: Bombay, March 24-31, 1 death.

PLAGUE.

China: Amoy, April 25, present.
Ecuador: Guayaquil, March 28-April 4, 35 deaths.
Egypt: Provinces: Assiout, March 20-21, 5 cases, 2 deaths; Beni Souef, March 21, 1 case; Fayoum, March 20-26, 2 cases, 2 deaths; Galyoobeeyah, March 21, 1 case, 1 death; Garbieh, March 23-26, 2 cases; Kena, 4 cases, 2 deaths; Minieh, March 23, 2 cases.
India: General, March 14-28, 16,529 cases, 13,839 deaths; Bombay, March 24-31, 491 deaths; Rangoon, March 14-21, 30 deaths.
Peru: Callao, March 14-21, 4 cases, 1 death; Catacaos, 5 cases; Chepen, 1 case, 1 death; Chiclayo, 20 cases, 14 deaths; Chosika, 1 case, 1 death; Eten, 11 cases, 7 deaths; Lima, 10 cases, 7 deaths; Mollendo, 5 cases, 4 deaths; Monsefu, 8 cases, 5 deaths; Pisco, 1 case, 1 death; Trujillo, 84 cases, 38 deaths.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Pure Milk in Cincinnati.

The milk commission of the Academy of Medicine of Cincinnati is doing excellent work for the purification of the milk supply of that city. Two pamphlets have been prepared for distribution; one contains information regarding the milk supply of the city, with photographs of local dairies, showing the difference between a properly managed dairy and one in which no attention is paid to cleanliness; the second contains a strong argument for legislative enactment regulating the dairy business. Beside these pamphlets, a large amount of literature has been sent out during the past four months and much material on the subject has appeared in the local papers.

One of the difficulties which the commission encountered was the opposition of wealthy distillers of the city. In spite of this fact the bill regulating the milk business in Ohio passed both the Senate and the House. The secretary of the commission writes:

"This bill was inspired by our former health officer, who waged a relentless fight for clean milk during his administration, and who found that the feeding of distillery waste stood in the way of any improvement whatever. All of our citizens rejoice with us to-day. We consider this a signal victory for the medical profession of our city. We have not only carried our point, but have likewise educated our citizens most decidedly on this all important question."

The increasing interest in clean milk which is being manifested in many of our large cities should be stimulated and encouraged by the local medical society. In each case the society should take the lead in educating the public and in demanding better regulation of this vital subject. The work done by the Academy of Medicine of Cincinnati is most commendable and will undoubtedly lead to marked improvement in local health conditions.

Endorse Public-Health Bills.

Resolutions have been adopted by the board of health of the City and County of San Francisco endorsing the bills (H. R. 18792 and H. R. 18794) introduced into Congress by Mr. Hepburn, providing for the protection of the public health and the enlargement and increased efficiency of the Public Health and Marine-Hospital Service. The bills are endorsed as necessary for the uniform control and eradication of epidemic diseases in the United States and all California members of Congress are urged to work for their immediate passage as being of the utmost importance to the public health of the entire United States. The bills have been referred to the Committee on Interstate and Foreign Commerce of the House of Representatives.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eighth Month.

FOURTH WEEKLY MEETING.

Symptomatology of Typhoid Fever.

Incubation: Usual period, variations.

Onset: Headache, anorexia, diarrhea and abdominal pain, malaise, vomiting, cough, etc.

Special Modes of Onset: With marked (1) nervous symptoms, (2) pulmonary symptoms, (3) gastrointestinal symptoms, (4) renal symptoms, (5) with complications, (6) ambulatory form.

General Description: First week, second week, third week, fourth week, fifth week.

Special Symptoms.

Fever: Average duration, usual course, variation in onset, causes of sudden changes, fever of relapse, fever of convalescence, afebrile typhoid.

Chills: Usual causes.

Skin: Characteristic rose spots, pathology, location, number, proportion of cases, differentiation. Other skin lesions, erythema, peliomata, sudamina, furuncles, bed sores.

Digestive System: Mouth and tongue. Parotitis, frequency, terminations, prognosis. Gastric disturbances. Intestinal symptoms, diarrhea, constipation, meteorism, abdominal pain. Hemorrhage, frequency, incidence, quantity, significance, symptoms. Perforation, frequency, incidence, symptoms, differentiation. Changes in spleen, in liver, in gall bladder.

Respiratory System: Epistaxis. Bronchitis. Lobar pneumonia, bronchopneumonia, hypostatic pneumonia. Pleurisy.

Circulatory System.

Pulse rate, dicrotism. Myocarditis, endocarditis. Arterial thrombosis. Venous thrombosis, distribution, incidence. Blood changes, red cells, hemoglobin, leucocytes, causes of leucocytosis.

Nervous System: Headache, stupor, delirium, mania, post-typhoid insanity, asthenic psychoses, hysteria. Menigitis, serous and purulent, *meningisme*. Neuritis, local, multiple.

Renal System: Febrile changes. Ehrlich's reaction. Bacilluria. Acute nephritis, pyelitis, cystitis.

Osseous System: Periostitis, necrosis and other changes. Typhoid spine, pathology and symptoms.

Prophylaxis.

General Measures: Control of water and food supply. Notification of cases.

Special Measures: Isolation of patient. Disinfection: (1) stools, (2) urine, (3) clothing, (4) room, (5) bedpans, etc. Flies. Attendants. Vaccination or antityphoid inoculation.

Marriages

CHARLES MARVIN FOX, M.D., to Miss Cora Monroe, both of Chicago, May 6.

ISAAC H. JONES, M.D., to Miss Emilie S. Austin, both of Philadelphia, April 22.

HARRY L. MCDONALD, M.D., to Miss Mary Preston, both of Mitchell, S. D., April 22.

MERRICK LINCOLN, M.D., to Miss Mary Bowker, both of Worcester, Mass., April 29.

JOHN J. BARTLEY, M.D., to Miss Margaret E. Desmond, both of Lawrence, Mass., recently.

JOHN BLAKE, M.D., Detroit, to Miss Bertha Veronica Byrne of Belle River, Ont., April 29.

CHARLES W. GIESEN, M.D., to Miss Emma Elizabeth Hudson, both of Superior, Wis., April 28.

FRANK L. SCHUM, M.D., Huntingdon, Pa., to Miss Mary Peightol of Philadelphia, April 16.

CHARLES S. JUDY, M.D., Miamisburg, Ohio, to Miss Ida E. Rairdon of Dayton, Ohio, April 29.

WALTER EARL TAYLOR, M.D., Owsley, Mo., to Miss Posey Paxton of Green Ridge, Mo., April 19.

IRA A. PACE, M.D., to Miss Orpha Pettit, both of Guide Rock, Neb., at Denver, Colo., March 25.

HUBERT SIDNEY SMITH, M.D., Thibodaux, La., to Miss Effie Munson of Napoleonville, La., April 23.

G. G. WAREHEIM, M.D., Baltimore, to Miss Mary Gelbach of Glenrock, Pa., at Baltimore, April 21.

LESLIE CLIFFORD LOVE, M.D., to Miss Edith Josephine Manson, both of Montclair, N. J., April 21.

CAPTAIN HENRY S. GREENLEAF, Medical Department, U. S. Army, to Miss Carrie McClellan of Washington, D. C., April 30.

WILLIAM JOHN ZALESKY, Passed Assistant Surgeon, U. S. Navy, to Miss Elizabeth Gibbs Dismukes of St. Augustine, Fla., April 27.

Deaths

Jacob A. Miller, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1861; for several years assistant superintendent of the Pennsylvania State Lunatic Hospital, Harrisburg; surgeon to Berdan's New York Sharpshooters and later surgeon of the Second Rhode Island Volunteer Infantry, during the Civil War; for several years physician of Lancaster County; first secretary of the Lancaster County Medical Association; for thirty years secretary of the Pennsylvania State Pharmaceutical Association; a member of the school board of Harrisburg from 1878 to 1887; died at his home April 27, from malignant disease of the throat, after an illness of five weeks, aged 71.

John W. Maddin, M.D. Medical Department, University of Nashville, Tenn., 1856; a member of the Tennessee State Medical Association and Davidson County Medical Society; surgeon of the Thirty-fifth Alabama Infantry, C. S. A.; later surgeon of the Thirtieth Texas Cavalry, and subsequently medical purveyor of the Trans-Mississippi Department in the Confederate service during the Civil War; formerly president of the Nashville Academy of Medicine and Surgery; one of the best-known practitioners of Nashville; died at his home, May 4, from congestive chill, after an illness of one day, aged 73.

William Armstrong Willoughby, M.D. Medical Department, Victoria College, Toronto, 1867; member of parliament for East Northumberland, Ont., in 1886, 1890, 1894, 1902 and 1906; minister without portfolio in the Whitney cabinet; surgeon-colonel of the Fortieth Regiment; a member of the municipal council of Colborne for eight years; reeve for seven years; member of the school board for twelve years, and 1884 warden of the united colonies of Northumberland and Durham; died at his home, April 25, from brain disease, aftera prolonged illness, aged 64.

H. Byron Baguley, M.D. Medical College of Ohio, Medical Department University of Cincinnati, 1881; a member of the American Medical Association; and of the Association of Military Surgeons of the United States; chief surgeon, W. Va. National Guard with rank of lieutenant-colonel; a veteran of the Spanish-American War; surgeon to the City Hospital, Wheeling; U. S. pension examining surgeon; died at his home in Wheeling, May 1, after a long illness, aged 51.

Lyman B. Smith, M.D. New York University Medical College, New York City, 1875; a member of the American Medical Association and formerly president of the Hornellsville (N. Y.) Medical and Surgical Association; a member of the staff of St. James and Mercy hospitals; a member of the Hornell common council for two terms, and for several years a member of the local board of health; died at his home in Hornell, April 26, after a long illness, aged 56.

James Jackson Terhune, M.D. Long Island College Hospital, Brooklyn, N. Y., 1875; a member of the medical societies of the State of New York and County of Kings, and of the Associated Physicians of Long Island; formerly surgeon of the Thirteenth Infantry, N. G. S. N. Y.; a veteran of the Civil War; U. S. pension examining surgeon; died at his home in Brooklyn, April 30, from hypertrophy of the heart, after a prolonged illness, aged 64.

Edward P. Russell, M.D. University of Vermont, College of Medicine, Burlington, 1866; a member of the Vermont State and Addison County medical societies; a veteran of the Civil War, and for nearly 40 years a practitioner of Middlebury, Vt.; for 30 years a member and for most of that time chairman of the local board of pension examining surgeons; died at his home April 29, from nephritis, after an illness of four weeks, aged 67.

William Wright, M.D. McGill University, Montreal, 1848; for more than thirty years a member of the faculty of his alma mater, in which he served as demonstrator of anatomy, professor of medical jurisprudence and professor of materia medica; for nearly twenty-eight years attending physician and surgeon at the Montreal General Hospital, and a clergyman of the Church of England, died recently at his home in Montreal, aged 80.

Arthur Gordon Oven, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1883, and also a graduate of the law school of the University; a member of the American Medical Association; a prominent practitioner, and one of the foremost citizens of Petoskey, Mich.; died at his home, April 18, from perforation of the intestine, due to duodenal ulcer, from which he had suffered for several years, aged 56.

Horace Marshall Holmes, M.D. Berkshire Medical College, Pittsfield, Mass., 1852; a member of the Massachusetts Medical Society; president of the Berkshire District Medical Society in 1881 and 1882; a member of the legislature in 1878 and 1879; for several years a school committeeman, member of the local board of health and town physician; died at his home in Adams, May 3, after an illness of several weeks, aged 81.

George Joseph Grimes, M.D. Bellevue Hospital Medical College, New York City, 1868; a member of the American Medical Association; in 1892 first vice-president of the Medical Association of Georgia; city physician of Columbus, Ga., in 1881 and 1883; president of the local board of health from 1886 to 1891; died in his apartment in Columbus, from acute nephritis, April 28, after a prolonged period of invalidism, aged 61.

Aloysius Schapringer, M.D. University of Vienna, Austria, 1872; of New York City; a member of the medical societies of the State and County of New York; German Medical Society of the City of New York, New York Academy of Medicine, and Association of Medical Alumni of Mount Sinai Hospital; ophthalmic and aural surgeon to the German Hospital and Dispensary, New York City; died Dec. 19, 1907, aged 60.

Joseph F. Griffin, M.D. Medical Department of the Tulane University of Louisiana, New Orleans, 1856; surgeon in the Confederate service during the Civil War; afterward editor of the *Southern Cross*, published in Avoyelles Parish; for several years president of the Shreveport Medical Society, and until recently chemist of the Shreveport board of health; died at his home in that city, April 30, aged 80.

Joseph Oakley Farrington, M.D. New York University Medcial College, New York City, 1857; of New York City; a member of the American Medical Association; president of the Harlem Medical Association in 1872; a member of the New York Academy of Medicine and Society of Medical Jurisprudence; died at Johns Hopkins Hospital, Baltimore, May 4, two weeks after a surgical operation, aged 78.

Theophilus T. Price, M.D. Pennsylvania Medical College, Gettysburg, 1853; a member of the Medical Society of New Jersey; for about 50 years a member of the Burlington County (N. J.) Medical Society; president of the board of health of Tuckerton, N. J., for several years; acting assistant surgeon, U. S. Marine-Hospital Service from 1879 to 1896; died in Cape May, N. J., April 23, aged 79.

Charles Homer Perry, M.D. Bellevue Hospital Medical College, New York City, 1866; a member of the Massachusetts and Worcester district medical societies and the American Academy of Medicine; assistant surgeon U. S. Navy from 1861 to 1865; one of the oldest practitioners of Worcester; died at his home, May 1, from pleuro-pneumonia, after an illness of one week, aged 73.

Alexander Cochran, M.D. College of Physicians and Surgeons in the City of New York, 1855; for several years an inspector in the Brooklyn health department; surgeon of the Fifty-Sixth Infantry, N. G. S. N. Y., and surgeon of the Eleventh Brigade throughout the Civil War; died at his home in Brooklyn, April 29, from pneumonia, after a brief illness, aged 76.

Cyrus Felton Rutledge, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1885; a member of the Oklahoma State Medical Association and Wood County Medical Society; at one time a member of the Kansas Medical Society; who had been ill with tuberculosis for several years; died from pneumonia, at his home in Alva, Okla., Dec. 9, 1907, aged 50.

Ahab K. Carmichael, M.D. Western Reserve Medical College, Cleveland, 1881; Bellevue Hospital Medical College, New York City, 1888; health officer of Meadville, Pa., in 1891; local surgeon of the Denver & Rio Grande Railroad at Trinidad, Colo.; died at his home in that city, May 1, from tuberculosis, after an illness of several years, aged 54.

J. Sanderson Christison, M.D. New York University Medical College, New York City, 1877; an alienist and criminologist of Chicago who appeared as expert in a number of celebrated cases; died in his apartments in Chicago, April 8, from gas asphyxiation, aged 58. The coroner's verdict was that the physician came to his death by his own hand.

John A. Frame, M.D. Medical College of Ohio, Medical Department, University of Cincinnati, 1872; a member of the Ohio State Medical Association and Franklin County Medical Society; a specialist on diseases of the eye; died at his home in Columbus, April 28, from cerebral hemorrhage, after an illness of four days, aged 58.

Ernest Ray Limbocker, M.D. Drake University College of Medicine, Des Moines, Iowa, 1905; of New Virginia, Iowa; a member of the American Medical Association, and secretary of the Drake Medical Alumni Association; died in the Methodist Hospital, Des Moines, May 3, from pleuro-pneumonia, after a short illness, aged 27.

John Alexander Monroe, M.D. New York University Medical College, New York City, 1868; a member of the Medical Society of the State of North Carolina and Moore County Medical Society; surgeon of the Thirty-eighth North Carolina Infantry, C. S. A., during the Civil War; died at his home in Jonesboro, April 27, aged 80.

Edward Henry Black, M.D. Transylvania University, Medical Department, Lexington, Ky., 1842; superintendent of the State Institution for Feeble-Minded, Frankfort, from 1868 to 1878; for many years a practitioner of Stamping Ground, Ky.; died at the home of his daughter in Louisville, April 5, from senile debility, aged 88.

Albert G. Craig, M. D. Medical College of Ohio, Medical Department, University of Cincinnati, 1866; an interne in the Cincinnati Hospital for a year thereafter; for twenty-eight years a practitioner of Vevay, Ind.; died at Christ's Hospital, Cincinnati, April 23, two weeks after an operation for appendicitis, aged 64.

James Sewall Raymond, M.D. Philadelphia College of Medicine and Surgery, 1852; for 17 years a practitioner of Algonac, Mich., and afterward a resident of Ogdensburg, N. Y.; for three years a member of the board of education; died in the Masonic Home, Utica, N. Y., April 24, from cerebral hemorrhage, aged 80.

James Clayton Shaw, M.D. Cleveland Homeopathic Medical College, 1881; health officer of Hoosick Falls, N. Y.; died at his home in that place April 30 from the effect of a gunshot wound of the brain, believed to have been self-inflicted while suffering from temporary mental aberration, aged 56.

Charles H. Griffin, M.D. New Orleans School of Medicine, 1867; formerly a practitioner of Ruston, La.; a Confederate veteran; an honorary member of the Claiborne Parish Medical Society; died at his home in Homer, La., April 27, from chronic nephritis, after a lingering illness, aged 68.

Rufus Hacker Hall, M.D. Bellevue Hospital Medical College, 1898; of Everett, Mass.; a member of the Massachusetts and Middlesex district medical societies; died in the Massachusetts General Hospital, Boston, April 29, from pneumonia, after an illness of about a week, aged 35.

Henry Charles Albert Kirchner, M.D. Washington University, Medical Department, St. Louis, 1878; for a short time in the United States Navy before the Mexican War; died suddenly at his home in St. Louis, May 3, from rupture of an aneurism of the aorta, aged 86.

David Coalter Gamble, M.D. Washington University, Medical Department, St. Louis, 1869; a member of the American Medical Association; clinical professor of diseases of the ear in his alma mater; died suddenly at his home in St. Louis, May 4, from heart disease, aged 63.

Leonard R. McIntyre, M.D. University of Nebraska, College of Medicine, Omaha, 1897; a member of the Illinois State and Iroquois-Ford Counties medical societies; formerly of Kankakee; died at his home in Onarga, May 3, after an illness of one week, aged 39.

Warren W. Wimberly, M. D. Georgetown University School of Medicine, Washington, D. C., 1892; died at his home in West Lake, Ga., from over-exertion and exposure, after making a professional call which necessitated fording of a flooded stream, April 27, aged 54.

Neil Dunlop, M.D. Faculty of Medicine of Queens University and Royal College of Physicians and Surgeons, Kingston, Ont., 1861; for many years a practitioner of Sydenham, Ont.; died at his home in Kingston, Ont., April 24, from paralysis, after a long illness.

Richard Stebbins, M.D. College of Physicians and Surgeons in the City of New York, 1860; a noted student of French literature and history; formerly a practitioner of Onawa, Iowa, died suddenly at his home in Omaha, Neb., April 18, aged 84.

Edward D. Whitacre (License, Iowa) 1886; for 38 years a practitioner of Hardin County, Iowa, and from 1875 to 1876 mayor of Liscomb; died suddenly at his home in Marshalltown, Iowa, April 30, from angina pectoris, aged 65.

Edmund S. F. Arnold, M.R.C.S. England, 1844; M.D. Jefferson Medical College, Philadelphia, 1848; a member of the American Medical Association; formerly of Newport, R. I.: died recently at his home in Mandarin, Fla., aged 89.

Arne Nelson (Exemption Certificate, Minn.) 1883; a member of the American Medical Association, and a well-known practitioner of northwestern Minnesota; died at his home in Fertile, May 2, from cerebral hemorrhage, aged 57.

Howard Boyd Calhoun, M.D. Jefferson Medical College, Philadelphia, 1903; police surgeon of the first district, Philadelphia; died at his home in that city, May 4, from tuberculosis of the throat, after an illness of two years, aged 30.

Otto August Jahn, M.D. University of Würzburg, Germany, 1884; Bellevue Hospital Medical College, New York City, 1896; a member of the medical societies of the State and County of New York; died in Germany, in February.

Alexander Striemer, M.D. Grand Rapids (Mich.) Medical College, 1900; a member of the Michigan State and Hillsdale County medical societies; died suddenly at his home in Hillsdale, April 25, from heart disease, aged 58.

H. F. Neel (Years of Practice, Ky.) 1893; for 44 years a practitioner of Kentucky; a Confederate veteran; at one time president of the local pension examining board; died at his home in Prestonsburg, April 20, aged 65.

Julius Nazar (Kurkdji) M.D. Jefferson Medical College, Philadelphia, 1895; of New Haven, Conn.; died at the home of his daughter in that city, March 31, from kidney disease, after an illness of forty-six hours, aged 49.

William Halsted Caswell, M.D. College of Physicians and Surgeons in the City of New York, 1888; a retired practitioner of New York City; died at his home on Shelter Island, Long Island, N. Y., May 3, aged 66.

William Clark, M.D. Cleveland University of Medicine and Surgery, 1866; for 30 years a practitioner of Berea, Ohio; died at the home of his son in Lakewood, Cleveland, May 4, from senile debility, aged 81.

Edgar B. Harris (Years of Practice, Mich.) 1901; an eclectic practitioner of New Haven, Mich., for thirty years and a veteran of the Civil War; died suddenly in Kansas City, Mo., April 25, from heart disease.

Harry M. Piper, M.D. Homeopathic College, University of Michigan, Ann Arbor, 1899; of Denver, Ind.; was struck by a train while driving over a railway crossing in that town and instantly killed, April 30.

George W. Maston, M.D. Cincinnati College of Medicine and Surgery, 1876; from 1883 to 1893 a practitioner of Albany, Ore.; died at his home in Klamath Falls, Ore., April 24, from meningitis, aged 56.

Oswald Evans Baker, M.D. College of Physicians and Surgeons, Keokuk, 1890; of Dunlap, Ill.; died in St. Francis Hospital, Peoria, April 26, from surgical shock, two days after an operation, aged 57.

Joseph Jacob Silbert, M.D. Medical School of Harvard University, Boston, 1899; of Roxbury, Boston; died suddenly from heart disease while making a professional call, May 1, aged 43.

W. Y. Leonard, M.D. Cincinnati College of Medicine and Surgery, 1864; Rush Medical College, Chicago, 1866; died at his home in Lawrence, Kan., April 28, after a prolonged illness.

Edward S. M. Parham, Sr., M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1843; died recently at his home in Fordyce, Ark., and was buried April 26, aged 90.

Eli M. Williams, M.D. Cincinnati College of Medicine and Surgery, 1858; a member of the American Medical Association; died at his home in South Haven, Kan., April 11, aged 71.

Willis L. Snyder, M.D. Eclectic Medical Institute, Cincinnati, 1893; died at his home in Muncie Ind., April 2, from aneurism of the aorta, after an illness of two years, aged 40.

Samuel R. Gray (Years of Practice, Ill.) 1877; for 40 years a practitioner of Edgar Co., Ill.; died suddenly at his home in Chrisman, April 30, from heart disease, aged 70.

James Cook Morton, M.D. Baltimore, Medical College, 1897; died at his home in Baltimore, April 27, from kidney disease, after an illness of five weeks, aged 44.

James H. Emery, (Years of Practice, Ill.) 1878; for forty years a practitioner of Blandinsville, Ill.; died at his home in Newkirk, Okla., April 28, aged 76.

Charles D. McCoy, M.D. Kansas City Hahnemann Medical College, 1901; died at his home in Independence, Mo., April 29, from tetanus, aged 56.

James Edwards, M.D. Jefferson Medical College, Philadelphia, 1847; died at his home in Morton, Pa., recently, aged 88.

Society Proceedings

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, CHICAGO, JUNE 2-5.

Illinois State Medical Society, Peoria, May 19-21.
Missouri State Medical Association, Springfield, May 19-21.
Nebraska State Medical Association, Lincoln, May 19-21.
North Dakota State Medical Association, Grand Forks, May 20-21.
Iowa State Medical Society, Des Moines, May 20-22.
Rhode Island Medical Society, Providence, May 26.
Connecticut State Medical Society, New Haven, May 27-28.
American Pediatric Society, Delaware Water Gap, May 26-28.
American Gynecological Society, Philadelphia, May 26.
American Laryn., Rhin. and Otol. Society, Pittsburg, May 28-30.
American Academy of Medicine, Chicago, May 30-June 1.
American Association of Medical Examiners, Chicago, June 1-2.
American Gastro-Enterological Association, Chicago, June 1-2.
American Proctologic Society, Chicago, June 1.
American Urological Association, Chicago, June 1.
Nat. Confed. of State Med. Examining, etc. Boards, Chicago, June 1.
American Orthopedic Association, Chicago, June 4-6.
Massachusetts Medical Society, Boston, June 9-10.
American Climatological Association, Boston, June 9-11.
Maine Medical Association, Bangor, June 10-11.
Indiana State Medical Association, French Lick, June 18-19.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

One Hundred and Tenth Annual Meeting, held in Baltimore, April 28-30, 1908.

The President, DR. CHARLES O'DONOVAN, Baltimore, in the Chair.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. Brice W. Goldsborough, Cambridge; vice-presidents, Drs. Philip Briscoe of Calvert County, W. L. Smith of Baltimore County, and G. Milton Linthicum, Baltimore; secretary, Dr. John Ruhrah, Baltimore; treasurer, Dr. William S. Gardner, Baltimore; State Board of Medical Examiners, Drs. Herbert Harlan, Baltimore; F. B. Smith, Frederick, and W. W. Goldsborough of Caroline County; member of board of trustees, G. Lane Taneyhill, Baltimore; members of council, Drs. A. H. Hawkins, L. C. Carrico, W. R. Eareckson, H. B. Gantt, Charles O'Donovan; committee on scientific work and arrangements, Drs. J. A. Chatard and F. W. Janney; committee on public policy and legislation, Drs. C. Hampson Jones, W. F. Hines and T. [illegible]haney; committee on library, Drs. J. Whitridge Williams, H. B. Jacobs, C. B. Gamble, Gordon Wilson and H. W. Cushing; delegate to the American Medical Association, Dr. G. Lane Taneyhill.

Committee Reports.

DR. EDWARD N. BRUSH, Towson, reported for the new building committee a total of $60,528.16, representing subscriptions paid and unpaid, state appropriation, interest and value of present property; of this amount about $35,000 is available for commencing the new building. The committee was authorized by the faculty to borrow a sum not to exceed $25,000 and to start building operations at once.

The committee on public instruction reported the success of the public courses of lectures on sanitation. The committee on legislation reported that the medical laws are notably deficient in many essential points. They are fragmentary and scattered and paradoxical in many sections, so as to make a legal decision often difficult, if not impossible. There is great need of codification of the present law if not for the framing of a new law.

The committee on sanitary and moral prophylaxis reported that a branch of the American society of that name had been founded in Baltimore, April 24, 1908, under the designation, "Maryland Society of Social Hygiene." A constitution has been adopted and the following officers elected: President, Dr. Charles O'Donovan, Baltimore; vice-presidents, Mr. Robert Garrett, Baltimore; Dr. Hiram Woods, Baltimore, and Dr. V. D. Miller, Hagerstown; executive committee, Judges H. Stockbridge and A. S. Niles together with the committee; treasurer, Mr. John R. Cary; secretary, Dr. D. R. Hooker.

A handsome portrait, done in oils by Corner, of the late Dr. I. Edmonson Atkinson, was presented with appropriate remarks by Drs. Samuel Theobald and Hiram Woods.

Two joint sessions were held with the Maryland State Conference of Charities and Corrections.

The annual dinner was held on the evening of April 29 and was attended by Dr. Joseph D. Bryant, President of the American Medical Association; Prof. E. A. Schäffer of Edinburgh; Hons. Arthur P. Gorman and Charles W. Linthicum of the Maryland Senate, and Dr. William H. Welch. Dr. Charles O'Donovan acted as toastmaster.

Physicians Interested in Public Affairs.

DR. CHARLES O'DONOVAN, Baltimore, in the presidential address urged physicians to take part in legislative and public matters and to contribute their special knowledge and influence for the cause of good government and health of the community. He urged closer union between the Faculty and the State Board of Health and State Lunacy Commission. He commended the public lectures on health subjects instituted by the Faculty and urged the appointment of a committee on tuberculosis to assist in organizing and directing a campaign against the pest. He urged the continuance of efforts for pure food and particularly for pure milk.

Some Hindrances to the Higher Station of Medicine.

DR. JOSEPH D. BRYANT, New York City, in the annual oration, admitted that the medical profession was held in less esteem than the professions of theology or law. With reference to the neglected duties of citizenship he said that those of our profession who have no apparent concern in public affairs, who devote their time and thought wholly to the practice of their calling, negligent or indifferent to their duties as citizens and influential members of a body politic, are not adding as they ought to the enhancement of the station of medicine. Physicians, he said, should be willing to pause long enough to assume the responsibilities of counsel in public affairs or perhaps of official station, so that the best interest of the public and the profession might be wisely supported and approvingly advanced. Such a policy of action affords occasion for unselfish cooperation in the best interests of medicine and of good order and thereby often forestalls the perennial realization of persons whose ambitious desires for professional or official position are largely in excess of their availability. He stated that the citizen who contributes a part of his time and thought and individual comfort to the important and often onerous duties of a juror, bears witness to his loyalty to a government which secures to him his rights of property and person. In doing this he also contributes his mite toward the maintenance of good citizenship. While in a degree physicians may stifle their sense of public duty with the plea that the demands of an exacting and onerous profession do not permit them to give it heed, they can not, Dr. Bryant said, with any measure of fairness remain indifferent to the appeals for protection and support which medicine itself rightfully requires of those whose character and constancy are an important part of its belongings.

Incipient Tuberculosis of the Lungs and Its Diagnosis.

DR. GORDON WILSON, Baltimore, said that the data from which a diagnosis of tuberculosis of the lungs should be made are obtained, 1, from the history of the case and, 2, from the examination of sputum, study of temperature and use of tuberculin. He then enumerated the symptoms of the incipient stage of the disease and presented briefly the approved methods of physical diagnosis. Dr. Wilson warned against the indiscriminate use of the ocular tuberculin test which is becoming so popular on account of its simplicity.

Fracture of the Neck of the Femur.

DR. ALEXIUS MCGLANNAN, Baltimore, discussed the etiology, symptomatology and treatment of this condition and stated that the only treatment offering hope of perfect anatomic and functional result is fixation in extreme abduction, Whitman's method, the value of which is not sufficiently appreciated. He then detailed the method and reported eight cases.

Hydrotherapy.

DR. FRANK BROWN, Baltimore, said there should be in every hospital and medical school the means of giving all sorts of baths, and there should also be a physician on the staff who gives his attention to this subject. He called attention to the fact that the University of Maryland had gone farther in this respect than any other school in Baltimore. He said that the subject had not received the attention at the hands of the profession its importance warrants.

Direct Laryngoscopy.

DR. RICHARD H. JOHNSTON, Baltimore, said that direct laryngoscopy is daily becoming more popular and that when laryngologists realize that it is far superior to the indirect method it will receive the recognition it deserves. The method of procedure was described in detail. Tracheo-bronchoscopy and esophagoscopy both as means of diagnosis and treatment are, he considers, valuable additions to the methods of examination.

Enchondroma of the Larynx.

DR. J. J. CARROLL, Baltimore, stated that cases of enchondroma of the larynx are rare. He reported a case occurring in a man of 34; the tumor was the size of a walnut and was situated just under the vocal cords. Thyrotomy with preliminary tracheotomy was performed and the tumor removed; at the time of the report the patient's condition was perfectly satisfactory, and, while the voice was bad, there was no evidence of return of the growth.

Gastric Secretion in Old Age.

DR. JULIUS FRIEDENWALD, Baltimore, has examined 27 patients, all of them over 55 years of age and in none of whom were there any symptoms indicating gastric disorder. At least two examinations were made in each case and in most three or four. His results showed free hydrochloric acid in 44 per cent. and in only 18 per cent. was the percentage of free hydrochloric acid normal. Of the males 42 per cent. presented an entire absence of free hydrochloric acid and of females 50 per cent. did the same. The general results of his observations showed that the gastric secretion has a tendency to diminish in old age and in a measure proportionate to the degree of arteriosclerosis.

Future Possibilities of Surgery of the Thorax.

DR. J. C. BLOODGOOD, Baltimore, pointed out that there is at present no living pathology in diseases of the chest, and that for progress to be made in surgery of the chest, operations must be done on living animals. The difficulties and dangers of intrathoracic surgery were discussed fully and the need of experimental work in this branch was demonstrated.

MISSISSIPPI STATE MEDICAL ASSOCIATION.

Annual Meeting, held at Natchez, April 14, 1908.

The President, DR. R. S. CURRY, Columbus, in the Chair.

Report of the Secretary.

DR. E. F. HOWARD, Vicksburg, in his report as secretary, stated that charters have been issued during the year to Claiborne County Medical Society and to a tricounty society consisting of the counties of Pike, Lincoln, Copiah, by order of the council; by order of the president, on certificate that the originals had been lost or destroyed, made by the county officers, to the societies in Amite, Attala, Harrison, Jefferson, Lawrence, Perry-Green, Smith and Tate. He also called attention to the fact that this association is practically without records as all it possessed were destroyed by fire in 1903, and that not even a file of the transactions since then has been kept. He suggested that a committee be appointed to compile and edit a history of the association. Dr. Howard advised taking steps to secure a duplicate of the charter which was also destroyed by fire, or take out another and said that the custodian of the records should be empowered to provide a fireproof place for their safe-keeping.

The committee to which the secretary's report was referred heartily commended the work of Dr. Howard and recommended that he be instructed to take immediate steps to secure a new

charter, and to secure a safe depository for the records of the association.

Report of the Council.

DR. JAMES B. BULLITT, University, read this report which commended Dr. Howard for his attitude in refusing to register any physician at meetings of the association whose name has not been sent in by the secretary of the county society, but instructed him that for the present meeting all such members and delegates be registered. He was instructed, however, that in future no member or delegate be seated unless his name has been duly reported by the secretary of the county society, or unless he presents a receipt for membership dues signed by the county secretary; members so seated shall have all the privileges of the meeting, but shall not be entitled to copies of the transactions, until their membership dues shall have been received by the secretary.

Election of Officers.

The officers elected were named in THE JOURNAL, May 2, page 1431.

MEDICAL ASSOCIATION OF ALABAMA.

Proceedings of the Annual Session, held at Montgomery, April 21-24, 1908.

The President, DR. SAMUEL WALLACE WELCH, Talladega, in the Chair.

After prayer by Rev. E. E. Cobbs, and addresses of welcome by Dr. Henry B. Wilkinson on behalf of the Montgomery County Medical and Surgical Society; by Mr. C. P. McIntyre on behalf of the city; by Hon. B. B. Comer, governor of the state of Alabama, the president's annual message was delivered.

These addresses were followed by routine reports of officers.

Early Diagnosis of Carcinoma of the Uterus.

DR. I. L. WATKINS, Montgomery, said that our present knowledge justifies the opinion that, in nearly all cases of malignant disease, there is a time when it is possible to eradicate the pathology completely. In the study of suspicious cases it is always important to get a very accurate history of the woman's habits and her condition from the time of her early menstruation. The question as to whether or not children have been born, although not conclusive, is important in estimating the value of symptoms. The conditions that will help most in the recognition of this lesion in its earliest stages are some deviations in the menstrual function or other uterine discharges, or a recurrence of a bloody discharge after the menopause. These changes may come in the form of an excess or as an intermenstrual discharge. In a woman beyond the age of thirty, these symptoms should always be regarded with suspicion.

DISCUSSION.

DR. M. B. CAMERON reported a case in which the uterus was enlarged to twice its normal size, and the os almost entirely destroyed by the cancerous growth. The woman had no symptoms except pain, and a profuse watery discharge.

DR. JOHN R. HOWELL has never been able to make a diagnosis of cancer of the uterus any too early to operate and save the life of the patient.

The Diagnosis and Medical Treatment of Gastric Ulcer.

DR. JAMES E. DEDMAN, Birmingham, drew the following conclusions: 1. Gastric ulcer uncomplicated is a strictly medical disease. 2. There are complications which arise, such as hemorrhage, anemia and persistent vomiting, which still are amenable to medical treatment. 3. As far as the treatment of the ulcer itself is concerned, absolute rest in bed for at least four weeks is imperative, and the Lenhartz diet is the best yet devised, being far superior to any form of rectal nourishment, because it readily affords rest to the stomach and at the same time supplies the patient with a highly nutritive food. 4. Drugs are of little value, as far as healing the ulcer is concerned. 5. Olive oil, on account of its caloric value and property of reducing hyperacidity, is of much value, but should not be given in cases where there is pyloric stenosis, as it retards the evacuation of the stomach contents. 6. The hemoglobin percentage should be carefully watched and some form of iron or arsenic administered to maintain it. 7. A careful dietetic régime should be enforced for practically one year, and no patient should be considered cured unless the cessation of gastric symptoms lasts for at least two years. 8. Uncured ulcers, quasi-cured ulcers, and even the cicatrices of healed ulcers offer a most inviting habitat for carcinoma later in life. 9. Persistent, unrelieved hemorrhage, painful perigastric adhesions, hyperplastic infiltrations resulting in pyloric stenosis and perforations are phases of gastric ulcer that unquestionably belong to surgery.

Surgical Treatment of Gastric and Duodenal Ulcers.

DR. GASTON TORRANCE, Birmingham, after speaking of the frequency of ulcer, and discussing the etiology, pathology, symptoms and treatment, reported a perforating gastric ulcer which he closed by suture, no-loop gastro-enterostomy, with recovery of the patient. He also reported a case of rupture of the gall bladder, with severe hemorrhage from gastric ulcer; obliterating appendicitis; cholecystectomy was done, as well as Mayo's no-loop gastro-enterostomy, resecting the ligament of Treitz, followed by appendectomy, with recovery of the patient.

DISCUSSION.

DR. CHARLES W. STILES referred to the recent work of Vineberg in Pasteur's Institute, in which he shows that various gastric and intestinal parasites may act not only in wounding the intestine, but in carrying infective bacteria into the wounds. This work shows that we can have ulcers arising directly as the result of parasitic infection. In hookworm disease a slight pressure in the epigastric region gives rise to almost instant resistance on the part of the patient. This pain can be followed down toward the right, but disappears suddenly as the hand is passed towards the left.

DR. DYER F. TALLEY said that a great many lives have been saved in recent years on account of the technic developed in the treatment of stomach troubles, surgically. Medical treatment should not be too long continued, where it seems to do no good, and especially in cases where there are any urgent symptoms, such as the vomiting of blood or evidence of stenosis at the pylorus. Cases of gastric hemorrhage can be relieved by gastro-enterostomy.

DR. LEWIS C. MORRIS thinks that gastric ulcer primarily in all cases is a medical condition, and becomes surgical usually only when there are complications, such as perforation, hemorrhage, stenosis, etc. He related an interesting case on which he operated two years ago for hour-glass contraction. In this case there was almost complete obstruction of the stomach. He did the exact analogue of Finney's pyloroplasty on the hour-glass contraction. In recurring hemorrhages from gastric ulcer drainage is justifiable.

Malaria in Children.

DRS. B. B. SIMMS and H. B. WARWICK, Talladega, presented a joint paper on this subject, in which they say that from their observations, many people carry in their blood the malarial parasite for many months without active symptoms of malaria, for they have observed the plasmodia from time to time for a period of from five to six months, and no paroxysm occurred. The probable reason for the absence of malarial symptoms is that the number of parasites in the body is too small, since it is estimated that there must be from two hundred to three hundred millions in the human system to produce the paroxysm. The intervention of some other disease causes the parasite to increase, thereby giving rise to malarial symptoms.

DISCUSSION.

DR. W. H. SANDERS, Montgomery, reported a case which he diagnosed as yellow fever, but which was doubted by several physicians because the woman's blood contained the malarial parasite. His diagnosis of yellow fever was subsequently verified by autopsy.

DR. CHARLES W. STILES said that when the malarial parasites are found in the blood of patients for a long time, it is usually the female parasite that is found. The sexual parasite has passed through its evolution to the point where it

can not reproduce any further, and it then evolves into the male and female forms. The female form of parasite contains a great deal of nutrient material. The male parasite is composed chiefly of nuclear material, with very little nutrient material. Accordingly, the male parasite dies out in the blood, but the female parasite may last for a long time.

DR. JOHN P. STEWART spoke of the difficulty of differentiating the form of parasite found in the blood.

Pyuria in Women.

DR. HENRY D. FURNISS, New York, in speaking of pyuria, said not all cases of purulent urine should be included. Only those cases in which pus is from the urinary tract were considered. Whenever pus is found in the urine, the first effort should be to locate its origin and determine the etiolgic factor. The majority of the inflammatory disorders of the genito-urinary system recover spontaneously after the removal of the cause. In the acute cases there is not much difficulty in locating the origin of the pus, for the local symptoms are sufficiently intense to point to the source of the trouble. If there is pus in the bladder urine, if the bladder is catheterized and carefully washed, and a second specimen obtained by means of a catheter an hour later contains the same amount of pus as the first; the inference is clear that the pus is derived from a source outside of the bladder. With the aid of the cystoscope, one can determine the nature, the extent, and often the cause, of the lesion with which he has to deal.

The Cause and Treatment of Summer Diarrhea of Infants.

DR. W. W. HARPER, Selma, said that all bottle fed babies should be put on pasteurized or sterilized fresh cow's milk, with a fat percentage at or below 3.5. Should curds appear in the stools, use skimmed or buttermilk, returning as soon as possible to whole milk. Since living lac-bacilli are now procurable in tablet form, the pasteurized milk should be sown with them during the summer months, since these bacilli inhibit the germination of the pathogenic spores which are not killed by sterilizing. They keep the intestinal tract acid which is an unhealthy media for all pathogenic germs. These lac-bacilli also reinforce the normal intestinal flora. Their good effect is felt for some time after their ingestion. The nurse and mother should be told to discontinue milk with the first loose, green, or foul stool and to send for the doctor. Give a dose of castor-oil, or small doses of calomel, if the stomach is irritable. Give boiled water for the first twenty-four hours, and rice or barley water for the second twenty-four. During the starvation period, administer tablets of lac-bacilli. At the end of forty-eight to seventy-two hours, use buttermilk which has been pasteurized and then inoculated with lac-bacilli. The infectious variety calls for symptomatic treatment.

Treatment of Deep-Seated Gonorrheal Infections With Gonococcic Vaccines.

DR. C. W. SHROPSHIRE, Birmingham, reported three cases which he had treated by these vaccines, one of which was complicated with gonorrheal rheumatism and epididymitis. He did not use any internal medication in this case, neither was there any local treatment given. The vaccine was the only treatment given which responded well to it. In the other cases he used locally irrigation of 1 per cent. solution of carbolic acid, which he found very beneficial in keeping the urethra clean. There was no antiseptic or astringent used locally. He did not give any internal medication. He has found that the constipation which complicated the cases has been entirely relieved. He has never seen any bad effects from the injection of the vaccine, with the exception of a slight pain at the site of the injection, due to the pressure of the fluid in the tissues. He has given it in doses from 25 million killed bacteria to as large a dose as 500 million killed bacteria. When these large doses are given, they should be made in several injections at the same time, with no attempt to force over 2 c.c. of vaccine, or 100 million killed bacteria in one injection. In two cases he was unable to find the gonococci in the discharge or shreds before he gave the vaccine, but after giving the vaccine he found the gonococci present, proving that if the gonococci are buried in the deeper tissues the vaccine will cause them to be eliminated. In discharging so-called well cases, it is a good idea to give each a course of treatment with vaccine and note the reaction produced. He believes that we have a most valuable agent in these vaccines, but as yet his work has been too limited to give any positive expression on it.

Surgical Treatment of Goiter.

DR. DYER F. TALLEY, Birmingham, said there has been much discussion recently as to the best methods of treating goiter, and the internist has come to admit that in many cases, surgical treatment is not only the best, but the only treatment which offers any hope of permanent relief. Good and scientific work is being done by Rogers and Beebe in obtaining a cytotoxic serum which has been used with benefit, but this serum is difficult to prepare and may not be of uniform strength always. Benefit has been derived from the use of the milk and blood from thyroidectomized animals, and many drugs have been recommended as useful, but the improvement due to these remedies is often temporary and lasts only during treatment.

While the author's experience has not embraced many cases of goiter, the results in the few cases he has treated surgically have been so uniformly good that he regards it as being attended with as much success and satisfaction as the removal of a diseased appendix. His results are 100 per cent., both as to recoveries and the relief of symptoms for which operation is done. He attributes this success to the fact that the cases of exophthalmic goiter were seen early. Cases were related on which the author had operated.

Acute Intestinal Obstruction.

DR. EDWARD W. PETERSON, New York, discussed the treatment of this trouble with especial reference to intussusception, and reported five cases on which he had operated, three of which were successful, and two fatal. He believes that with a better knowledge of the mechanics and with a more thorough understanding of the pathology of the affection, will come a realization of the futility in most instances of the palliative measures. The keynote of success will bear reiteration, namely, early diagnosis and prompt radical treatment.

Psychotherapy.

DR. CABOT LULL, Birmingham, referred to some of the qualifications desirable in practitioners who aspire to succeed with psychotherapy, and among them he mentioned (1) a diagnostic ability sufficient to enable one to exclude all organic conditions and to make a reasonably positive diagnosis of nervousness. (2) A perfectly honest, fearless and confident attitude toward the patient. (3) Some knowledge of human nature, a reasonable sympathy for suffering and mental instability, and lastly, tact. Special training in psychology is of great advantage, and this is in reach of nearly every general practitioner in a country where schools and libraries are plentiful. This will enable one to obtain possession of certain valuable data in regard to the mental status of his patients. Whatever method is adopted, the great underlying principle is the same; namely, the application of psychic remedies to psychic diseases.

Mouth-Breathing.

DR. R. C. YOUNG, Anniston, discussed this condition as a factor in producing deformities of the dental arches.

DR. WILLIAM G. HARRISON, Birmingham, discussed some of the causes and evils of mouth-breathing. In children adenoid vegetations in the nasopharynx are responsible for a large majority of the mouth-breathers, and no examination is so satisfactory as palpation with the forefinger rapidly passed back in the throat to one side, and then insinuated behind the soft palate. He laid stress on the etiologic relationship between adenoids and middle-ear disease, saying they may produce only a catarrhal condition of the Eustachian tube or perchance a real occlusion of its inner orifice, and here one sees diminished impaired hearing. Such a child is often scolded and rebuked for inattention, when in reality the ears are at fault.

Clinical Migraine Due to Unusual Refractive Errors.

DR. KENNETH BRADFORD, Birmingham, said that the prime object of his paper was to bring before the Association the

important connection between organic defects in the eye and that complex functional disorder known as migraine. Continuous relief, for a period of seven months, from attacks of migraine of increasing frequency of a most aggravated type has, in the author's own case, followed immediately on the detection and correction of a rather unusual refractive error.

Epidemic of Jaundice.

DR. D. P. DIXON, Talladega, described an epidemic of jaundice which occurred in Talladega during the summer of 1907. Out of the 200 cases reported, only 25 were children, and 8 of these were infants. The blood of the latter was examined and found to contain the malarial plasmodium. Thirty of the cases reported were among women; the other 145 occurred among men of previously good health. Fifty of the cases were among negroes. There were probably many more cases in this race that passed unnoticed. Almost all of the cases collected were among the well-fed, well-clothed and well-housed classes. The cases among children were, with the exception of the babies, entirely among boys. Not a single girl was reported as having jaundice. These boys were about 10 to 12 years of age, well developed and previously healthy lads. They were not so severely taxed as the adults in either length or intensity, although in the beginning the febrile stage was almost the same. The men affected continued at their usual occupations after the first three or four days, or after the febrile stage had passed. There were a few cases during the winter months which were more severe and lasted for a longer time, because most of these patients were indoors most of the time on account of the very severe weather, and did not get sufficient fresh air and sunshine.

In looking up the causes given by writers on this subject, the author finds that very few mention malaria as the predisposing cause. Nothnagel puts the different causes into three classes: (1) Atmospheric, telluric or climatic causes. (2) Dietetic influences. (3) Infectious causes. The third, or infectious class, according to the author's theory, played the leading part in the causation of this epidemic.

The majority of the cases of jaundice appeared gradually with headache, malaise, drowsiness, abdominal pain and cramps in the legs, and subsequently, usually vomiting; moderate temperature, although the temperature in some went as high as 104 degrees, chill and chilliness. Jaundice came on several days after the appearance of the first symptoms. Generally, by this time, the temperature was normal, and where there was no complication it did not rise again. In some the temperature at this time became subnormal and remained so for some time. The patients usually had a very slow pulse, with putty colored stools, highly colored urine, and sweat, and other symptoms seen in catarrhal jaundice. These cases usually lasted from two to eight weeks. There were very few complications. Two cases were taken with biliary colic and after the acute symptoms had subsided, became jaundiced. Another was the case of a boy with pneumonia. In another a woman just before confinement became very much jaundiced. The child was stillborn and the mother died in a few days. These last two were the only two fatal cases reported.

Public Meeting on Tuberculosis.

Several other papers were read and discussed. One evening was set aside for the discussion on tuberculosis. The meeting was held at the old First Baptist church, and was well attended by the laity. Papers were read as follows: "A Serious Condition in Alabama and How to Meet It," by Dr. Glenn Andrews, Montgomery; "Social Aspects of the Tuberculosis Problem," by Dr. S. A. Knopf, New York; "The Layman's Duty in the Fight Against Tuberculosis," by Hon. H. T. Reese, Selma; "The Duty of the Press in the Fight Against Tuberculosis," by Major W. W. Screws, Montgomery.

At one of the evening sessions two notable addresses were delivered, one by Dr. W. M. Wilkerson, Montgomery, known as the "Monitor's Address," and the "Annual Oration," by Dr. Wellington P. McAdory, Birmingham. Dr. Wilkerson spoke on "The Ethics of the Profession." He asked that both the public and the profession strive for a better understanding of each other. He appealed to the people to aid the profession in all measures looking toward the improvement of mankind; to help them with their intelligence, and to assist them with their means in all public enterprises for the physical betterment of the human race. To the members of the profession he said: "Give of your time and experience and training and substance all that may be required for the still further uplifting and ennobling of our profession, and for the good of our fellow-beings. Let no task be too difficult, no ideal so high that you do not strive to attain it. Thus let us press onward—doctors and people—hand in hand towards that goal where sickness and suffering are unknown."

Dr. McAdory, among other things, said that medicine to-day is nearly an exact science. This scientific position has not been attained in a year, a decade nor a century, but founded on nature; it has gradually developed, and each step in this development has been marked by the saving to the world countless lives and suffering. The practice of this science is the art of handling disease, and these artists are ordinarily called practitioners of medicine. He reviewed at length the great progress that has been made in medicine and surgery in the last decade or so.

The list of officers elected was given in THE JOURNAL last week. Birmingham was selected as the place for holding the next annual meeting.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held March 25, 1908.

The President, DR. A. M. EATON, in the Chair.

SYMPOSIUM ON PSYCHOTHERAPY.

Psychotherapy; Its Methods, Scope and Limitations.

DR. CHARLES K. MILLS said that the story of psychotherapy is an old one, but it is being retold by new raconteurs, with a few additions of value, and with many trimmings and adornments. The terms psychic medicine and mystic medicine are not absolutely interchangeable. In a certain sense, mystic medicine—the medicine of the savages, of the oracles, of Mrs. Eddy, of the shrine of whatever sort—has in it the psychic element. It appeals to the superstition or the imagination of the individual, playing either on his normal or his abnormal suggestibility. The psychic medicine in which the doctor should be interested continuously is one in which the use of mental influence for the relief or cure of disease is resorted to on the same scientific principles as is the use of water, medicine, electricity, the knife or the obstetric forceps.

The accepted psychotherapeutic methods of to-day were considered under the heads of: 1, The use of hypnotic procedures; 2, the appeal to suggestibility in the waking state, and 3, the resort to educational or persuasive measures. Dr. Mills is of the opinion that suggestion in patients in the state of profound hypnosis should not be resorted to, except in a very few extreme cases of hysteria, in which it should be used on the principle "of two evils choose the lesser." The use of suggestion in the waking state was commended, with some qualifications, however, as, like suggestion under hypnosis, it occasionally might result in harm. The suggester, however serviceable he may be to his suffering patient, does not always effect a permanent cure. The truth is not as DuBois expresses it, that one is cured as soon as he believes he is cured, but that he is cured when the conditions which have caused and which tend to reproduce his sickness, have been removed. In this era of the exploitation of psychic medicine, the community, and even the profession, have been confined beyond the confines of reason.

With regard to the admixture of religion and medicine for the purposes of healing, it should be said that in medicine, as in religion, faith is often essential. Harm is done, not alone to the community and to the medical profession by the psychotherapeutic efforts of enthusiastic but misled clergymen, but eventually to religion itself. Every neurologist of any considerable experience has had pass through his hands many cases of uncured disease in individuals of deep religious sentiments, who have called in their extremity on Christian Science or some similar healing cult, and who, failing to receive the benefit for which they have been led to hope, have lost their

faith not only in the efficacy of the cult to heal, but also in its efficiency in matters purely spiritual. The strongest and wisest opponents of osteopathy and faith cures and divine healing and all similar and special non-medical therapeutic methods or organizations, are those who, misled by great promises consciously or unconsciously made, have come back to be cared for and treated by those who only claim for themselves the powers which are given to them through scientific study and experience with disease.

The Use of the Mental Element in the Treatment of Disease.

DR. CHARLES W. BURR referred to the value of the personal element in therapeutics and divided psychotherapeutics into: Education; encouragement; waking suggestion; suggestion under the hypnotic state, and those occult and mystical and, so-called, religious means of cure. He separates encouragement from suggestion, because in encouragement there is simply a logical talk with the patient, showing him his error in what he thinks about himself, showing him that his condition points toward cure. In waking suggestion the attempt is made to act on the patient's "unconscious mind," causing him to create in his own mind without knowing that the physician has caused it, a feeling of well-being in the future.

In nervous conditions suggestion is regarded as one of the most valuable agents, but it is also considered to be capable of great harm. Concerning hypnotism in general, Dr. Burr said that there is no subject in science in which it is more difficult to attain the truth than in this study. Much has been written on it by people who have not the slightest idea of how to weigh evidence. That the student is entirely at the mercy not only of the integrity, but the intelligence of the subject of hypnotism is another difficulty in the study of the subject.

Regarding the occult means of treatment, Dr. Burr believes that there is rapidly growing up in this country a superstition, intellectually as gross as ever appeared in the world's history. The reason for this superstition is too deep a subject for present solution. While the basis of the occult means of treatment is suggestion, it differs from the suggestion used by the physician in that there is claimed for it some power outside the physician himself as being the thing that does the work, and in this, in a measure, it approaches the witchcraft of olden times. One evil of the practice of occult means is that persons who could be cured by physical means, if treated promptly, are rendered incapable of cure by the delay. As to the religious element in therapeutics, Dr. Burr believes it would be a very dangerous practice for a religious body to attempt the cure of sick people without constant medical advice.

Analysis of Psychotherapy.

DR. F. X. DERCUM considered the methods of psychotherapy under the following heads: 1, General methods, including mental rest, mental exercise and mental gymnastics; 2, special methods, including normal suggestion, direct and indirect; 3, hypnotism and suggestion under hypnotism; 4, the psychoanalytic method of Breuer and Freud. The advantages of the legitimate use of the general methods and of normal suggestion were commended. Treatment by hypnotic methods was discountenanced on the ground that hypnotism is simply the artificial induction of an hysteric state and that the affection from which the patient already suffers is thus compounded with hysteria. The fallacies on which the psycho-analytic method is based were pointed out as were also its objectionable features. Freud's theory of the origin of the obsessions through passionate acts of sexual aggression during childhood was considered and its absurdities dwelt on. The writer further pointed out that all of the functional neuroses were characterized by a more or less marked impairment of the general health, that they were more or less the expression of asthenic states and that improvement in the nervous symptoms ensued on an improvement of the general health. He also pointed out the advantage of the employment of the general psychotherapeutic measures, such as are embodied in rest, isolation and restraining, etc., while efforts to improve the general health are being carried out

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

NORTH CAROLINA State Board of Medical Examiners, Winston-Salem, May 19. Secretary, Dr. G. T. Sikes, Grissom.

NEW YORK State Board of Medical Examiners, Albany, May 19-22. Chief of Examinations Division, Charles F. Wheelock, Albany.

LOUISIANA State Board of Medical Examiners, New Orleans, May 21-22. Secretary, Dr. Felix A. Larue, 211 Camp St., New Orleans.

INDIANA Board of Medical Registration and Examination, Indianapolis, May 26-28. Secretary, Dr. W. T. Gott, 120 State House, Indianapolis.

NEBRASKA State Board of Health, State Capitol, Lincoln, May 27-29. Secretary, Dr. E. J. C. Sward, Oakland.

MINNESOTA State Board of Medical Examiners, Old Capitol, St. Paul, June 2. Secretary, Dr. W. S. Fullerton, 217 American National Bank Bldg., St. Paul.

IOWA State Board of Medical Examiners, Capital Building, Des Moines, June 4-6. Secretary, Dr. Louis A. Thomas, Capital Bldg., Des Moines.

OHIO State Board of Medical Registration and Examination, Cleveland, Columbus and Cincinnati, June 8-10. Secretary, Dr. George H. Matson, State House, Columbus.

MICHIGAN State Board of Registration in Medicine, University Bldg., Ann Arbor, June 9. Secretary, Dr. B. D. Harison, 504 Washington Arcade, Detroit.

SOUTH CAROLINA Homeopathic Medical Examining Board, Columbia, June 9. Secretary, Dr. J. A. Whitman, Beaufort.

KANSAS State Board of Medical Registration and Examination, Kansas City, June 9. Secretary, Dr. D. P. Cook, Clay Center.

SOUTH CAROLINA State Board of Medical Examiners, Columbia, June 9-11. Secretary, Dr. W. M. Lester, Columbia.

WYOMING Board of Medical Examiners, State Capitol, Cheyenne, June 10-12. Secretary, Dr. S. B. Miller, Laramie, Wyo.

OKLAHOMA State Board of Medical Examiners, Shawnee, June 15 (about). Secretary, Dr. J. C. Mahr, Shawnee.

TEXAS State Board of Medical Examiners, Waco, June 16. Secretary, Dr. G. B. Foscue, Waco.

MARYLAND Homeopathic Board of Medical Examiners, Baltimore, June 16. Secretary, Dr. Joseph S. Garrison, 848 W. North Ave., Baltimore.

NEW JERSEY State Board of Medical Examiners, State House, Trenton, June 16-17. Secretary, Dr. J. W. Bennett, Long Branch.

DELAWARE State Medical Examining Board, Dover, June 16-18, and by the Homeopathic Board at Wilmington on same date. Secretary of the Medical Council, Dr. P. W. Tomlinson, Wilmington.

MARYLAND Board of Medical Examiners, Lehman's Hall, Baltimore, June 16-19. Secretary, Dr. J. McP. Scott, Hagerstown, Md.

VIRGINIA State Medical Examining Board, Richmond, June 23-26. Secretary, Dr. R. S. Martin, Stuart.

PENNSYLVANIA State Medical Examining Boards, June 23-26. The Regular Board meets at Philadelphia and Pittsburg; the Homeopathic at Philadelphia, and the Eclectic at Harrisburg. All applications must be filed with Dr. N. C. Schaeffer, Secrtary of Medical Council, Harrisburg.

NEW YORK State Board of Medical Examiners, Albany, June 23-26. Chief of Examinations Division, Charles F. Wheelock, Albany.

COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION.

Fourth Annual Conference, held at Chicago, April 13, 1908.
(Continued from page 1546.)

NORTH DAKOTA.—This state requires graduation of all applicants for license, has a single board of medical examiners, has reciprocity with other states, has the power to refuse recognition to disreputable schools, and requires for preliminary education a four-year high school course plus two years of work in a college of liberal arts, including physics, chemistry and biology. It has one medical college, which offers the first two years of medical course in an acceptable way.

OHIO.—This state requires graduation of all applicants for license, has a single board of medical examiners, has provision for reciprocity, has the authority to refuse recognition to disreputable schools, and requires a four-year high school education for admission to medical colleges. Ohio has nine medical schools, six of which are acceptable and three non-acceptable.

OKLAHOMA.—This state requires graduation of all applicants for license, has a single board of medical examiners, has no provision for reciprocity, and has authority to refuse recognition to disreputable schools, but does not require a four-year high school education for admission to medical colleges. It has two medical colleges, one acceptable and one non-acceptable.

OREGON.—This state requires graduation of all applicants for license, has a single board of medical examiners, has no provision for reciprocity, has but limited power to refuse recognition to disreputable schools, and has no provision as to preliminary education. It has two schools, one acceptable and one non-acceptable.

PENNSYLVANIA.—This state requires graduation of all applicants for license, and has several examining boards. Here the farce is seen of graduates of some of the regular schools taking the eclectic board examination in order to secure their license. The state has no provision for reciprocity, has no power to refuse recognition to disreputable schools, and requires less than a four-year high school education as its minimum standard of preliminary education. It has seven medical colleges, five of which are acceptable and two non-acceptable.

RHODE ISLAND.—This state does not require graduation of all applicants for license, has a single board of medical examiners, has no provision for reciprocity, has no authority to refuse recognition to disreputable schools, and has no provision for preliminary education.

SOUTH CAROLINA.—This state requires graduation of all applicants for license, has a single board of medical examiners, has provision for reciprocity, and has power to refuse recognition to disreputable medical schools, but for its minimum standard of preliminary education does not require a standard four-year high-school course. South Carolina has but one medical school, which is acceptable and should receive state aid.

SOUTH DAKOTA.—This state requires graduation of all applicants for license, has a single board of medical examiners, does not have reciprocity with other states, has power to refuse recognition to disreputable medical colleges, and requires for preliminary education a four-year high school course plus a year in a college of liberal arts, including physics, chemistry and biology. It has one medical school, which has just been opened in connection with the State University.

TENNESSEE.—This state does not require graduation of all applicants for license, has a single board of medical examiners, has provision for reciprocity, has no authority to refuse recognition to disreputable schools, and does not have any requirement of preliminary education. Tennessee has eleven schools, one acceptable and three or four others fairly acceptable, the rest being non-acceptable.

Many students of the Tennessee schools leave at the end of the second year of a four-year course and pass state board examinations either in Tennessee or in the adjoining states of Arkansas, Mississippi or Alabama, these four being the only states in the South that do not require graduation of all applicants for license.

TEXAS.—This state requires graduation of all applicants for license, now has a single board of medical examiners, has provision for reciprocity, has authority to refuse recognition to disreputable schools, and requires a four-year high school course for admission to medical colleges. Preliminary credentials are passed on by the Examining Board. Texas has seven medical colleges, two of which are acceptable and five not acceptable. The board has recently withdrawn recognition from two of these.

UTAH.—This state requires graduation of all applicants for license, has a single board of medical examiners, has provision for reciprocity, has authority to refuse recognition to disreputable medical schools, and requires a standard four-year high school education for admission to medical colleges. Utah has only one school, which is a part of the State University and which acceptably offers two years of the medical course.

VERMONT.—This state requires graduation of all applicants for license, has a single board of medical examiners, has provision for reciprocity, has power to refuse recognition to disreputable schools, and requires a four-year high school education for admission to medical colleges. There is but one medical school in the state and it is acceptable.

VIRGINIA.—This state requires graduation of all applicants for license, has a single board of medical examiners, has provision for reciprocity, has no authority to refuse recognition to disreputable medical schools, and has no provision for preliminary education. It has three medical schools, all of which are acceptable.

WASHINGTON.—This state requires graduation of all applicants for license, has a single board of medical examiners, has no provision for reciprocity, has only limited authority to refuse recognition to disreputable schools, and has no provision as to preliminary education.

WEST VIRGINIA.—This state requires of all applicants for license graduation from a reputable medical school, it has a single board of medical examiners, has provision for reciprocity, has authority to refuse recognition to disreputable medical schools, and requires a standard four-year high school education for admission to medical colleges. It has one medical school, which offers the first two years of medicine acceptably.

WISCONSIN.—This state requires graduation of all applicants for license, has a single board of medical examiners, has provision for reciprocity, has authority to refuse recognition to disreputable schools, and requires a standard four-year high school education for admission to medical colleges. It has three medical schools, one acceptable and two unsatisfactory.

WYOMING.—This state requires graduation of all applicants for license, has a single board of medical examiners, has provision for reciprocity, has but limited power to refuse recognition to disreputable medical colleges, and has no provision for preliminary education.

DEFECTS AND THE REMEDY.

This geographical review of the situation discovers many defects in laws and a large number of non-acceptable schools. It is evident that the remedy lies with the state board and the profession of each state and in the joint action of the state boards of all the states. By the united efforts of the profession and the state board, medical legislation necessary to enforce acceptable medical standards can be secured in each state, and if given proper authority, after careful inspection, the state board would be in position to withdraw recognition from schools which are not doing acceptable work. States which do not secure such efficient medical legislation are liable to become the dumping-ground of the ill-prepared graduates from the poorer schools, and the public and the profession will suffer accordingly. The states which obtain and enforce proper standards will secure high-class medical men which will result in elevating the standing of the profession and afford a better protection to the public. No public health movement in a state is of greater importance than that directed toward securing high standard medical men. In spite of the many defects which still exist when one realizes the great improvements that have taken place in the last ten years, the medical situation by contrast becomes most encouraging. A splendid wave for higher standards in medical education is sweeping over the country and is sure within a short time to reach every section and every state.

HIGHER PRELIMINARY REQUIREMENTS.

Already a large majority of the acceptable schools have adopted the requirement for preliminary education of a four-year high school course plus a thorough training in physics, chemistry and biology which, as you know, is the standard universally adopted in Europe.

The list of these schools arranged by states is as follows:

	Years.	Date.
CALIFORNIA.		
Cooper Medical College	1	1910
University of California, Medical Department	3	1908
Oakland College of Med. and Surg., Oakland	1	1910
University of Southern California, Coll. of Med.	1	1910
COLORADO.		
Denver and Gross Coll. of Med., Denver	1	1910
Colorado School of Med., Boulder	2	1910
CONNECTICUT.		
Yale University, Medical Department	2	1909
DISTRICT OF COLUMBIA.		
George Washington University, Department of Med.	2	1909
Georgetown University, School of Medicine	1	1910
ILLINOIS.		
College of Physicians and Surgeons, Chicago	1	1910
Hahnemann Medical College, Chicago	1	1910
Northwestern University, Medical School	2	1909
Rush Medical College	2	1904
INDIANA.		
Indiana Medical College	1	1910
Indiana University School of Medicine	1	1910

IOWA.		
Drake University, College of Medicine	2	1910
State University of Iowa, College of Medicine	2	1910
KANSAS.		
Kansas Medical College	1	1910
School of Medicine, University of Kansas	2	1909
KENTUCKY.		
Louisville and Hospital Medical College	1	1910
LOUISIANA.		
Tulane University, Medical Department	1	1910
MARYLAND.		
College of Physicians and Surgeons, Baltimore	1	1910
Johns Hopkins University, Medical Department	Degree.	1893
MASSACHUSETTS.		
Harvard University Medical School	Degree.	1900
MICHIGAN.		
University of Michigan, Department of Medicine	2	1909
MINNESOTA.		
University of Minnesota, Homeo. Department	2	1907
University of Minnesota, Department of Medicine	2	1907
MISSOURI.		
St. Louis University, Medical Department	1	1909
Washington University, Medical Department	1	1910
University of Missouri, Medical Department	1	1906
NEBRASKA.		
University of Nebraska, College of Medicine	1	1908
John A. Creighton Medical College	2	1910
NEW YORK.		
College of P. and S., New York	2	1910
Cornell University, Medical Department	3	1908
Syracuse University, Medical Department	2	1910
NORTH CAROLINA.		
University of North Carolina, Medical Department	1	1909
Wake Forest School of Medicine	2	1908
NORTH DAKOTA.		
University of North Dakota, College of Medicine	2	1907
OHIO.		
Western Reserve University, Medical Department	3	1901
Cleveland Coll. of Physicians and Surgeons	1	1910
Cleveland Homeopathic Medical College	1	1910
Medical College of Ohio	1	1910
Miami Medical College	1	1910
Starling-Ohio Medical College	1	1910
OKLAHOMA.		
University of Oklahoma, School of Medicine	1	1910
OREGON.		
University of Oregon, Medical Department	1	1910
PENNSYLVANIA.		
University of Pennsylvania, Department of Medicine	2	1910
SOUTH DAKOTA.		
University of South Dakota, College of Medicine	2	1910
TEXAS.		
University of Texas, Medical Department	1	1910
UTAH.		
University of Utah, Department of Medicine	2	1910
VIRGINIA.		
University of Virginia, Dept. of Med. (3 year high school +)	2	1910
WEST VIRGINIA.		
West Virginia University, College of Medicine	1	1910
WISCONSIN.		
University of Wisconsin, College of Medicine	2	1907

I feel confident that within a few years we can secure a fairly uniform and satisfactory medical standard throughout the United States which will result doubtless in a smaller number of schools. Those which are worthy to survive must receive the support of the state and of the medical profession. The public must be educated in the possibilities for good in modern medicine and the great need of our medical schools for state aid and private endowment. In spite of its shortcomings in its average methods of medical education, American medicine even to-day is, from the standpoint of productiveness of both laboratory and clinic, second to that of no other country, except possibly Germany; and in some things, as in the immediate care of the individual case in clinical medicine, in the purely operative side of clinical surgery and in the surgical technic, America leads the world. American medicine and American medical education have been advancing in the last twenty years by leaps and bounds. Let us unite in our efforts to raise the standards of American medicine. If we as a profession do our part intelligently and with courage; if we present the facts clearly before the American public and secure its sympathy and aid, we can look forward to the future confident that, in the coming great development of modern medicine, our country will contribute fully its part and that American medicine will be placed in a position second to none.

Following the address of the Chairman, the Secretary of the Council, Dr. N. P. Colwell, gave the following report of the work of the past year:

Report of the Secretary.

Mr. Chairman, Members of the Council on Medical Education and Visiting Delegates. Gentlemen:

The work of the Council on Medical Education for the past year and the progress made toward higher standards are as follows:

FACTS ABOUT MEDICAL STANDARDS ABROAD.

In the work for higher and more uniform standards for the United States, a knowledge of the requirements in other countries is important. A list of medical colleges of all foreign countries has been compiled, which shows a total of 174 such colleges outside the United States, while this country alone has 161. In other words, of the 335 medical colleges in all countries, the United States has 161, or 48 per cent., while the 30 other nations altogether have only 174, or 52 per cent. Again, all European medical schools are medical faculties of universities or are under the direct control of universities. There are no proprietary schools such as predominate in this country.

An offer to exchange our educational literature for the announcements of foreign schools has been largely accepted, so that we have considerable first-hand information regarding foreign medical education. Special efforts were also made to obtain accurate, authentic information, particularly from the countries in Europe, regarding preliminary education both primary and secondary, as well as collegiate and medical. Much information has been obtained, therefore, from original sources and from foreign publications. The data, thus obtained, agrees with the reports of the United States Bureau of Education, and in some instances have been confirmed by reports of the Education Department of the State of New York. The requirements in the various countries named are briefly as follows:

ARGENTINE REPUBLIC.—Elementary education extends between the ages of 6 and 14, and secondary education between the ages of 12 and 18, thereby overlapping the elementary by two years. Twelve years of study, therefore, lead to the medical course, which covers six years, including preliminary work in physics, chemistry and biology. The complete course requires 18 years and the minimum age at the completion of the course is 24.

AUSTRIA.—Elementary education extends between the ages of 6 and 14, overlapping the gymnasium course by four years, the latter extending between the ages of 10 and 18. Twelve years of study, therefore, admit to medicine. The medical course covers six years and includes preliminary courses in physics, chemistry and biology. The total time required is 18 years and the minimum age at completion is 24.

BELGIUM.—Elementary education extends between the ages of 6 and 14, overlapping the work in the Royal Athénées, the secondary schools, by three years, the latter extending between the ages of 11 and 18. The time spent in the primary and secondary schools is, therefore, 12 years. An additional year devoted to physics, chemistry and biology in a college of science admits to the five-year medical course. The time necessary to complete the work is 18 years and the minimum age at completion is 24.

BRAZIL.—Elementary education extends between the ages of 7 and 15, overlapping the work of the gymnasium by three years, the latter extending between the ages of 12 and 19. Elementary work may be begun at the age of 6 years, and in such cases students may finish the gymnasium at 18. Twelve years of work lead to medicine, where six years of work are required, including preliminary courses in physics, chemistry and biology. The time required to complete the entire course is 18 years and the usual age at completion is 25.

DENMARK.—Elementary education extends between the ages of 6 and 12, leading to the "laerdeskoler," the secondary schools, which extends between the ages of 12 and 18, a total of 12 years. The medical course covers six years, including preliminary courses in the natural sciences. Time to complete the work is 18 years and the minimum age at completion is 24.

FRANCE.—Elementary education extends between the ages of 6 and 13 or 14. The majority of students entering the second-

ary schools, however, obtain their elementary work from tutors or in special preparatory courses connected with the lycées. The secondary school, the lycée, has a nine-year course divided into two cycles of five and four years, respectively, and extends between the ages of 11 and 18. From age 6, therefore, twelve years of training are required to complete the primary and secondary work. An additional year devoted to the natural sciences which must be taken in a college of science admits to the four-year medical course. Entire course therefore, is 17 years and the age at completion is 23.

GERMANY.—Elementary study extends between the ages of 6 and 14, overlapping the gymnasium by four years, the latter extending between the ages of 10 and 18. Then follows a six-year course, which includes preliminary courses in the natural sciences, and the last year must be spent in hospital work. This gives the right to practice, but additional work is required, and a severe examination, the "examen rigorosum," must be passed to secure the degree of doctor. Eighteen years of work lead to medical practice or 19 to the Doctorate, and the age at completion is at least 24 or 25.

GREAT-BRITAIN.—There appears to be no connection between elementary and secondary systems of education. Elementary public schools have been provided, extending between the ages of 6 and 12 or 15. Those entering secondary schools usually obtain their elementary instruction from private tutors or in the preparatory courses of the secondary schools. At present there are no public secondary schools in Great Britain, although that country abounds in private secondary schools, having courses varying as to age limits. Taking Rugby as an example, the course extends from the age of 10 to 17. Others extend from the age of 12 to 19. There are various ages at which the student may enter the medical schools, the minimum age fixed by the General Medical Council being 16. The time spent in elementary and secondary education, therefore, ranges from 10 to 13 years. Work must then be taken in physics, chemistry and biology either in a college of science or in the medical college as a part of the regular five-year medical course. Authorities agree that only a small proportion of students enter the medical school before the 18th year and few graduate in medicine before the age of 23. Since the promotion from one grade to another depends entirely on the passing of an examination, the time to complete the medical course usually requires six or more years.

GREECE.—Elementary education is given in the "demotic" schools between the ages of 6 and 10 and in the "hellenic" schools between the ages of 10 and 14, leading to the secondary schools or gymnasia, which occupy the time between the ages of 14 and 18. Twelve years are occupied, therefore, by elementary and secondary education. Two years of work in the university devoted to botany, chemistry, physics, mineralogy, geology and zoology must be completed in order to begin the four-year medical course for the degree of Doctor. To secure the right to practice, nine months of postgraduate work in a hospital must be completed. The total time requirement is 19 years, and the minimum age at completion of the entire course is 25.

HUNGARY.—Elementary education extends between the ages of 6 and 12 years, overlapping secondary education, which extends between the ages of 10 and 18. The 12 years' work thus completed leads to the five-year medical course, which includes preliminary work in physics, chemistry and biology. The time for the entire course is, therefore, 17 years and the minimum age at completion is 23.

ITALY.—Elementary education is divided into lower elementary extending between the ages of 6 and 9 years and higher elementary extending between 9 and 12 years. Secondary education is given in the ginnasio, extending between the ages of 9 and 14 years and in the liceo which extends between the ages of 14 and 17 years. This is followed by a six-year course in medicine which includes work in the natural sciences. The complete course, therefore, is elementary study 3 years, ginnasio 5 years, liceo 3 years and medicine 6 years, a total of 17 years. The minimum age at completion of the course is 23 years.

JAPAN.—Ordinary elementary education extends between the ages of 6 and 10 years and higher elementary education is between the ages of 10 and 14 years, overlapping the work of the "middle school" by two years, the latter extending between the ages of 12 and 17 years. Completing the work of the middle school admits to the four-year medical course, and it is possible to complete the latter course at the age of 21 years.

NETHERLANDS.—Elementary education extends between the ages of 6 and 12 years, leading to the gymnasium, which extends from the 12th to the 18th year. Admission is then secured to the six-year medical course, which includes work in the natural sciences. The time to complete the entire course is 18 years and the minimum age is 24.

NORWAY.—Elementary education extends between the ages of 6 and 12 years, overlapping the secondary, which extends between the ages of 9 and 18 years. Secondary education is divided into a six-year middle school and a three-year gymnasium. The completion of the course of the gymnasium admits to the six-year medical course, which includes work in physics, chemistry and biology. The entire time, therefore, is 18 years and the minimum age at completion is 24. This gives the right to practice with the title of physician. The degree of Doctor requires extra work and the passing of special examinations.

PORTUGAL.—Elementary education extends between the ages of 6 and 12 years, thus overlapping the work of the lyceum, which extends between the ages of 9 and 16. This is followed by a course of one or two years in a faculty of philosophy and mathematics and then five years in medicine for the degree of licentiate in medicine and a sixth year for the degree of Doctor. The time for the entire course, therefore, is 18 years and the minimum age at completion is 24.

RUSSIA.—Elementary education extends for 5 years between the ages of 6 and 11. Secondary education, as given in the gymnasium, extends over 7 years between the ages of 11 and 18. Completion of the secondary work admits to the 5-year medical course, which includes preliminary work in the natural sciences extending through the first two years along with other subjects. The total time is 17 years and the minimum age at completion is 23.

SPAIN.—Elementary education extends between the ages of 6 and 14 years, overlapping the work of the gymnasia, the secondary schools, which conduct work between the ages of 10 and 17. After completing the work of the gymnasium, one year of "preliminary study" must be taken, devoted to chemistry and natural science. Six years more gives the degree of licentiate in medicine and one more that of doctor. The complete course, therefore, requires 18 years of study and the minimum age at completion is 24.

SWEDEN.—Elementary education extends over 7 years between the ages of 6 and 13. Secondary education consists of a five-year lower modern course and a four-year higher gymnasium, the two courses being attended by students between the ages of 9 and 18. After completing the gymnasium, one year of preliminary work in the natural sciences must be taken in a college of philosophy. Seven years more of study gives the degree of licentiate in medicine, which carries with it the right to practice. To secure the degree of Doctor requires more work and the passing of special examinations. Promotion to each succeeding grade depends on the passing of an examination, and the medical course often extends to 9 or more years. The entire course, therefore, includes: elementary work, 3 years; lower modern school, 5 years; higher gymnasium, 4 years; college of philosophy, 1 year, and medicine, 7 years, a total of 20 years. The age at completion is 26 to 28 years.

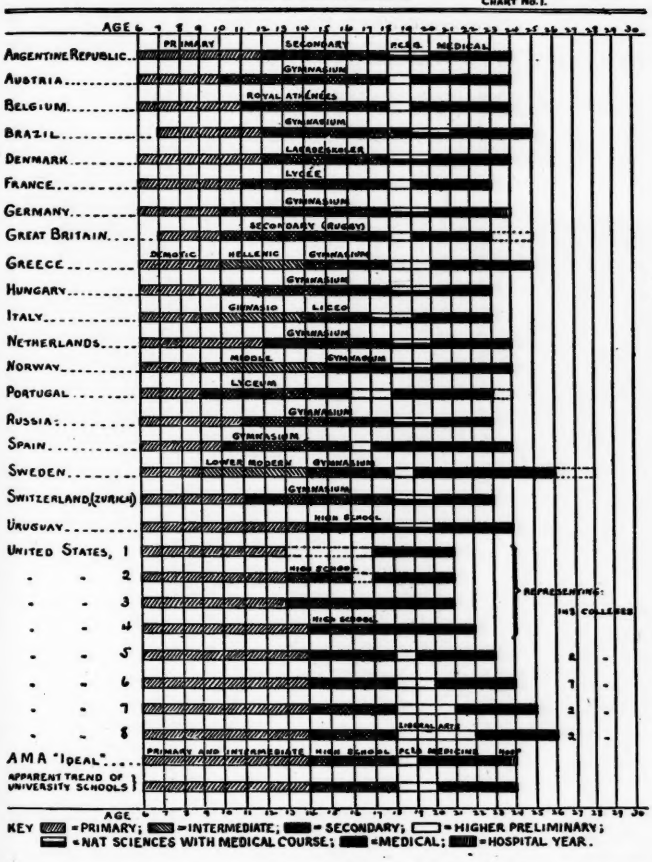
SWITZERLAND.—The Cantons differ somewhat in the length of their secondary courses, but all agree in regard to the preliminary work for admission to medicine and the length of the medical course. Taking the Canton of Zürich as an example, the elementary work extends over 6 years between the ages of 6 and 12. The secondary schools, known as gymnasia (realschulen or lycea), have courses covering seven years, students attending between the ages of 11 and 18. Graduation from the gymnasium admits to the five-year medical

course, which includes preliminary courses in physics, chemistry and biology. The entire course, therefore, requires: elementary work, 5 years; gymnasium, 7 years, and medicine, 5 years, a total of 17 years. The minimum age at completion is 23. The degree of Doctor is not essential to practice, but may be obtained by writing a special thesis and taking certain courses without necessarily requiring a longer course.

URUGUAY.—Elementary education extends between the ages of 6 and 14 years, leading to the secondary, which extends from the 14th to the 18th year. A six-year medical course follows, which includes preliminary work in physics, chemistry and biology. The time to complete the entire work is 18 years, and the minimum age at completion is 24.

The requirements in sixteen countries of Europe and three countries of South America are graphically presented in Chart I, where each division of education is shown according to the ages at which students are in attendance. The shaded portions of the bands represent primary and secondary education, the black portions the medical, and the white portions represent the requirements of higher preliminary education, including work in physics, chemistry and biology. The chart allows valuable comparisons to be made and, as measured by years, shows more of a uniformity of educational standards than one would expect. It is interesting to note how sharply the line representing the age of 18 separates the secondary from higher education.

PRELIMINARY AND MEDICAL EDUCATION IN EUROPE AND AMERICA. COUNCIL ON MEDICAL EDUCATION CHART NO. I.



VALUE OF "FOOT-RULE AND HOUR-GLASS" STATISTICS.

Let me say parenthetically that, although the expression of educational requirements in terms of years, or months, or by the ages of students does not actually measure the value of the education obtained, nevertheless a knowledge of the minimum time requirements in other countries is of importance, and a comparison with the minimum time requirements in our own country is of much value. This chart is of peculiar interest. Educators of high repute in this country have stated that the courses of study in the secondary schools of several European countries are the equivalent of a four-year high school course in this country, plus about two years of work in a college of liberal arts. I am inclined to look on such statements as unjust to some of our high grade secondary schools. Granting, however, that the statements are correct, it is of much importance for us to know that the secondary schools of Europe may be completed at the age of 18, whereas two years of work in a college of arts in this country can rarely be completed before the age of 20. In other words, if the above claims are well founded, it is important for us to know that the training of twelve years, between the ages of 6 and 18, in Germany and other European countries is the equivalent of fourteen years' training in this country between the ages of 6 and 20.

The age at the completion of the medical course in each country, as shown in the chart, with one or two exceptions, represents the lowest age at which the student can secure the right to practice medicine, disregarding the rare exceptions when the student graduates at an earlier age. The average age is one or two years higher than is shown in the chart, since the regular course of study between the ages of 6 and 24 is often broken by sickness, failure to receive promotion, or other causes.

In the majority of foreign countries secondary education begins from two to five years earlier than in this country and with a few exceptions has no direct connection with the elementary. In fact, in several European countries, in Great Britain and in France for example, it appears that the majority of students entering the secondary schools secure their elementary instruction from private tutors or in preparatory courses offered by the secondary schools, rather than in the regular elementary schools.

TRAINING IN PHYSICS, CHEMISTRY AND BIOLOGY.

Those in this country who are urging the requirement by the medical colleges of thorough preliminary work in physics, chemistry and biology will be interested in the fact that of all the countries named in the chart the United States is the only one which at present does not require this preliminary scientific work of every medical student. In some of the countries named the work is taken in the first one or two years of the medical course, along with the usual medical studies, while in others, notably in France, Belgium and Sweden, it must be taken in a college of science or philosophy. In still others, as in Austria and in Great Britain, the work may be taken either in a college of liberal arts or in the medical school.

In France this work was given as a part of the regular medical course until in 1893, when it was transferred to the college of science. The question then was, not, whether this preliminary work should be required, but *where* the courses should be taught, in the medical course, in the college of science, or in a special year added to the secondary school. The final decision favored the colleges of science, because the better laboratories and the trained instructors in those colleges made it certain that the courses would be more thoroughly taught.

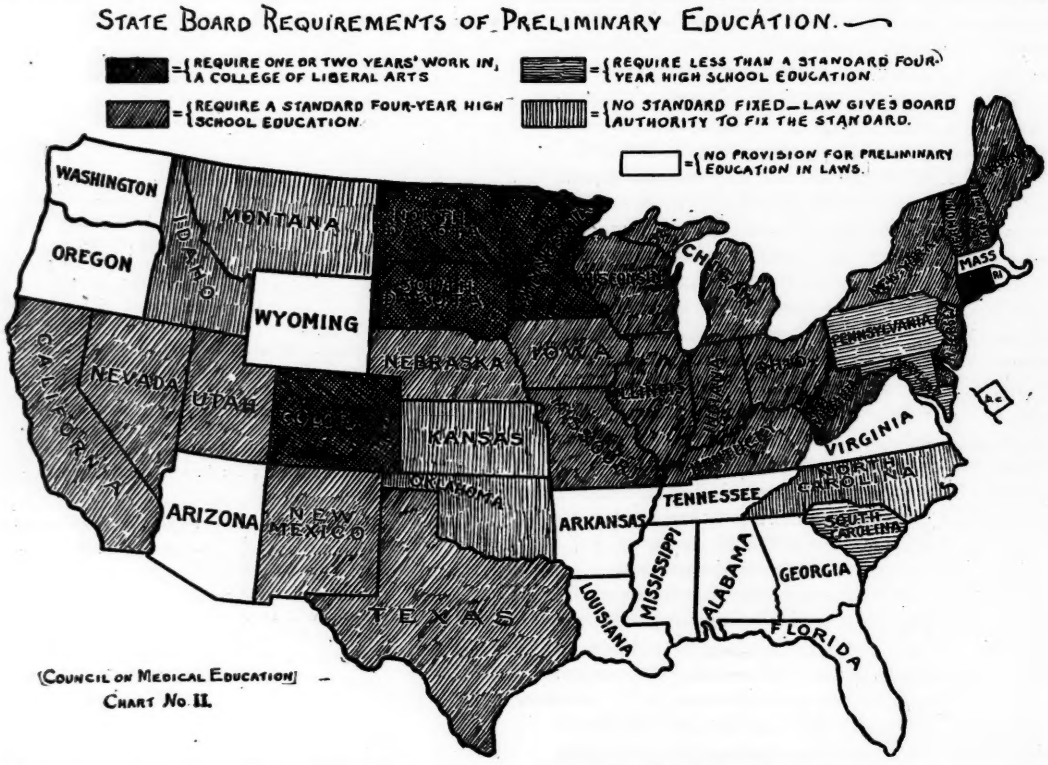
It is interesting to note that only one year devoted to the preliminary scientific studies is required by all but two of the countries named or else the work extends through about two years along with regular medical subjects, and in no instance

is more than two years of college work devoted entirely to preliminary study. Therefore, the tendency on the part of some colleges in this country to require three or four years of preliminary work in a college of liberal arts is going rather to the other extreme.

AGREES WITH A. M. A. IDEAL.

In six of the countries named, disregarding again the rare exceptions, the earliest age at which the right to practice medicine can be secured, is 23. In three countries the age limit is 25 or beyond. But in the great majority the age limit is 24 and the entire course of elementary, secondary, college and medical education is completed in 18 years. Note that this agrees with the "ideal standard" adopted at Portland, Ore., in 1905, by the American Medical Association, as well as with the so-called six-year combined course for the degrees of B.S. and M.D., which has been adopted by a number of colleges.

The well-known diversity of standards of medical education in the United States at the present time is also shown in the chart. Preliminary standards range from a common school



education up to the requirement of a college degree. Of the 161 colleges in the United States, 148 require a four-year high school education or less, as shown in Groups 1 to 4, while only 13 colleges are now requiring one or more years of work in a college of arts, six of these having raised their requirements in the past two years. There are now in the United States several medical schools which are probably equal to any found abroad. While the majority of medical colleges are voluntarily improving their facilities, thereby endeavoring to keep abreast of the demands of modern medicine, there are still a few score of colleges which will doubtless improve only as the states wherein these colleges are located adopt and enforce higher requirements.

ADVANCE IN ENTRANCE REQUIREMENTS.

The movement toward higher requirements of preliminary education during the past year has been steady but certain. There are 11 medical colleges which already require for admission two or more years of work in a college of liberal arts. These colleges and the dates when the requirement began are as follows:

College.	Began.
Johns Hopkins University, Medical Department	1893
Harvard Medical School	1900
Western Reserve University, Medical Department	1901
Rush Medical College	1904
University of California	1905
University of Minnesota, College of Medicine	1907
University of Minnesota, Homeopathic Department	1907
University of North Dakota, College of Medicine	1907
University of Wisconsin, College of Medicine	1907
Cornell University, Department of Medicine	1908
Wake Forest School of Medicine	1908

There are fifteen other medical colleges which have definitely announced an increase in their entrance requirements to two or more years of work in a college of arts. These colleges and the dates when the requirement will become effective are as follows:

College.	Begins.
Yale Medical School	1909
George Washington University	1909
Northwestern University Medical School	1909
University of Kansas, School of Medicine	1909
University of Michigan, College of Medicine	1909
American Medical Missionary College	1910
Colorado School of Medicine	1910
State University of Iowa, College of Medicine	1910
Drake University Medical College	1910
John A. Creighton Medical College	1910
College of Physicians and Surgeons of New York	1910
Syracuse University Medical Department	1910
University of Pennsylvania, Medical Department	1910
University of Utah, Medical Department	1910
University of South Dakota College of Medicine	1910

The twenty-seven following schools either already require one year of work in a college of arts devoted to physics, chemistry and biology, in addition to a four-year high school education, or have announced their intention to do so on or before the year given:

College.	In force.
University of Missouri, Medical Department	1906
University of Nebraska, Coll. of Med.	1908
St. Louis University, Medical Department	1909
University of North Carolina, Medical Department	1909
Cooper Medical College	1910

College.	In force.
Oakland College of Medicine and Surgery	1910
University of Southern California, Coll. of Med.	1910
Georgetown University, Medical Department	1910
College of Physicians and Surgeons, Chicago	1910
Hahnemann Medical College, Chicago	1910
Indiana Medical College	1910
Indiana University, School of Medicine	1910
Louisville and Hospital Medical College	1910
Tulane University of Louisiana	1910
College of Phys. and Surg., Baltimore	1910
University of Mississippi, Medical Department	1910
Washington University	1910
Medical College of Ohio	1910
Miami Medical College	1910
Starling-Ohio Medical College	1910
Cleveland Homeopathic Medical College	1910
Cleveland Coll. of P. and S.	1910
University of Oklahoma, Medical Department	1910
University of Oregon, Medical Department	1910
University of Texas, Medical Department	1910
University of Virginia (3 years high school and 2 years University)	1910
University of West Virginia	1910

Practically all these schools have expressed their intention to require that the work in physics, chemistry and biology be taken in a college of liberal arts.

About twelve medical colleges expressed their intention to make this increase in preliminary requirements, some of which were omitted because they have made no mention of such in their printed announcements. The others were omitted because it was found by inspection they were not satisfactorily equipped to teach medicine.

STATE BOARD REQUIREMENTS OF PRELIMINARY EDUCATION.

Chart II shows what preliminary education is required by the various state medical examining boards. It will be noted that five state boards have adopted a requirement of one or two years' work in a college of liberal arts. These states are as follows:

State Examining Board of	No. of Years Required.	Affects Students Matriculating.	Affects all Applicants After
Minnesota	2	1908-9	1912
Connecticut	1	1908-9	1912
North Dakota	2	1907-8	1911
South Dakota	1	1906-7	1910
Colorado	1	1908-9	1912

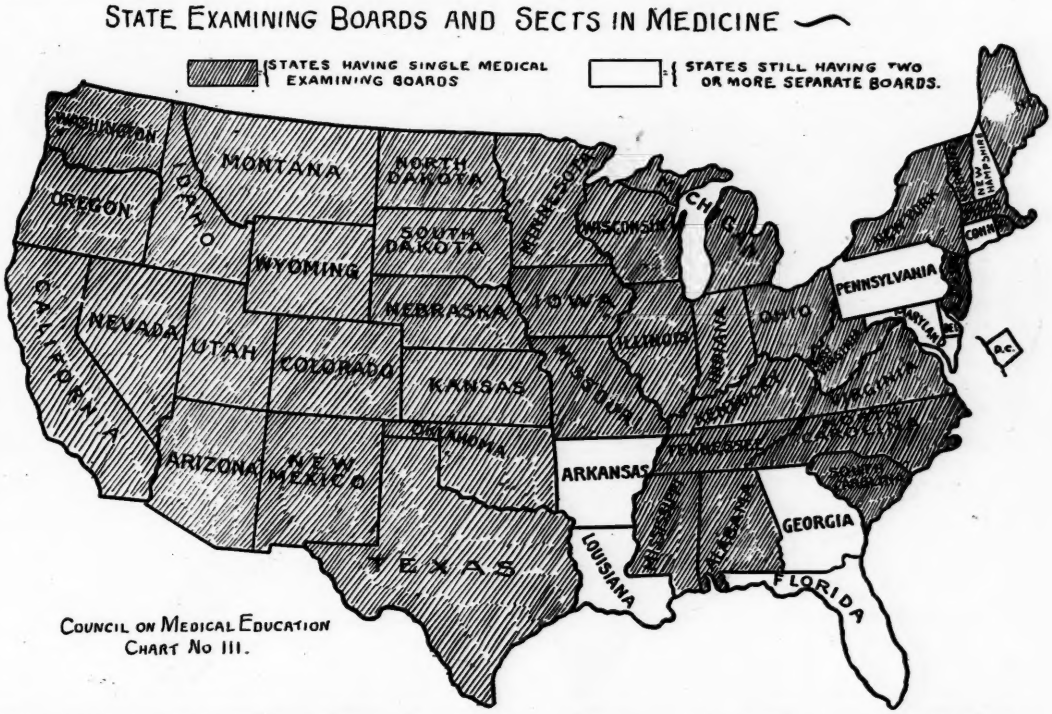
There are twenty-two states which now require a preliminary education the equivalent of a standard four-year high school. By a standard high school is meant one having a four-year course and which has been preceded by eight years in the primary and intermediate grades. These states are as follows:

California.	Michigan.	New York.
Colorado.	Missouri.	Ohio.
Delaware.	Nebraska.	Texas.
Illinois.	Nevada.	Utah.
Indiana.	New Hampshire.	Vermont.
Iowa.	New Jersey.	West Virginia.
Kentucky.	New Mexico.	Wisconsin.
Maine.		

Five states give their respective boards authority to fix the standards of preliminary education, but as yet no definite standards have been established. These states are: Idaho, Kansas, Montana, North Carolina and Oklahoma.

Three other states, Maryland, Pennsylvania and South Carolina have standards given in the law which are lower than the standard high school.

There still remain fifteen states where no mention of preliminary education is made in the practice acts and where apparently no authority is given to the boards to establish the standard. These states are:



Alabama.	Georgia.	Rhode Island.
Arizona.	Louisiana.	Tennessee.
Arkansas.	Massachusetts.	Virginia.
Dist. of Columbia.	Mississippi.	Washington.
Florida.	Oregon.	Wyoming.

In the following eight states the preliminary credentials of medical students are inspected previous to or at the time of matriculation by the state examining boards, or by officials appointed by and responsible to them:

California.	Michigan.	Pennsylvania.
Indiana.	New York.	Texas.
Kentucky.	Ohio.	

During the past year three states, New York, South Carolina and Texas, established single boards of medical examiners, leaving only ten states, as shown in Chart III, which still have two or more separate boards representing different schools of medicine. These states are as follows:

Arkansas.	Georgia.	Maryland.
Connecticut.	Florida.	New Hampshire.
Delaware.	Louisiana.	Pennsylvania.
Dist. of Colum.		

Every state and territory except Alaska now requires that the applicant must pass a written examination, as shown in

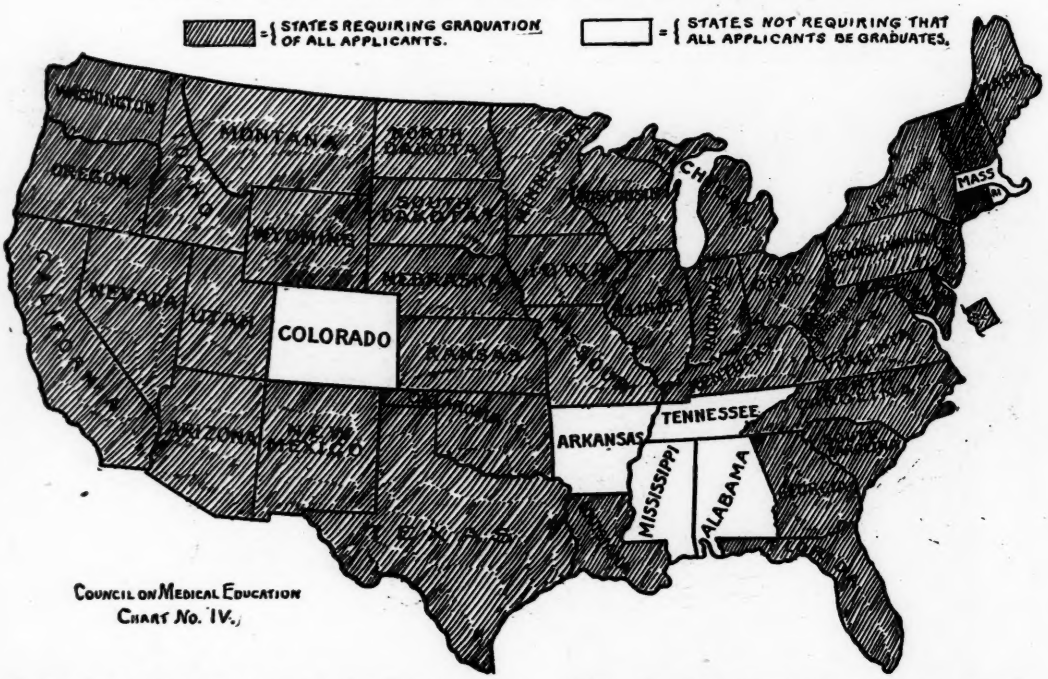
Chart IV and only seven states remain which do not require that the applicant for license to practice medicine must be a graduate from a medical college chartered to grant degrees. These states are:

Alabama.	Massachusetts.	Rhode Island.
Arkansas.	Mississippi.	Tennessee.
Colorado.		

RECOGNITION OF MEDICAL COLLEGES.

After considerable correspondence we are informed that twenty-nine state examining boards (shown in Chart V), have been given authority to refuse recognition to medical colleges which may not be doing satisfactory work. These are the boards of:

Colorado.	Maine.	North Dakota.
Connecticut.	Michigan.	Ohio.
Delaware.	Minnesota.	Oklahoma.
Idaho.	Missouri.	South Carolina.
Illinois.	Montana.	South Dakota.
Indiana.	Nebraska.	Texas.
Iowa.	New Hampshire.	Vermont.
Kansas.	New Jersey.	West Virginia.
Kentucky.	New Mexico.	Wisconsin.
Louisiana.	New York.	



Ten other states have been given a limited authority to decide what colleges shall be in good standing. These states are as follows:

Arizona.	Nevada.	Utah.
California.	North Carolina.	Washington.
Dist. of Columbia.	Oregon.	Wyoming.
Georgia.		

In California, Nevada and Utah the boards have the right to refuse recognition to colleges not holding the standards of the Association of American Medical Colleges, while in the other states named the boards must recognize a medical college so long as it is "legally chartered in the state wherein it is located." The authority in the latter case is seriously restricted since all the existing colleges are "legally chartered," however lacking they may be in equipment or in the ability to teach medicine.

At the present time there are ten states where the examining boards have not been given legal authority to protect the people of their states from the ill-prepared graduates of low grade medical colleges. These states are as follows:

Alabama.	Massachusetts.	Rhode Island.
Arkansas.	Mississippi.	Tennessee.
Florida.	Pennsylvania.	Virginia.
Maryland.		

In five states, Illinois, Indiana, Michigan, Missouri and Texas, action has recently been taken withdrawing recognition from eleven medical colleges, located in the states named, on the ground that the colleges were not properly equipped to teach medicine.

RECIPROCITY.

Interstate reciprocity in medical licensure is being gradually extended and the number of physicians licensed under that provision is increasing each year. At the present time only sixteen states remain, shown in Chart VI, which have made no provision for reciprocity, or which are not taking advantage of such provision. These states are:

Arizona.	Louisiana.	Oregon.
Arkansas.	Massachusetts.	Pennsylvania.
California.	Mississippi.	Rhode Island.
Connecticut.	Montana.	South Dakota.
Florida.	Oklahoma.	Washington.
Idaho.		

Alabama has lately granted the board the authority to arrange reciprocal relations with other states but thus far no such relations have been established.

Three states, Colorado, Delaware and New Jersey, will accept the license of any other state if the requirements of that state are satisfactory, regardless as to whether that state reciprocates or not. In other words, the regulations governing reciprocity in the states named contain no retaliatory clauses.

There are nine states which reciprocate only on the basis of a written examination. These states are Colorado, Delaware, District of Columbia, Illinois, New Hampshire, New York, North Dakota, Texas and Wyoming. The others reciprocate also on the basis of a diploma without examination, where the original license was issued prior to the date when a written examination was required of all applicants.

During 1907 a total of 989 licenses were issued through reciprocity compared with 685 in 1906, the increase being 304.

PROGRESS TOWARD UNIFORMITY.

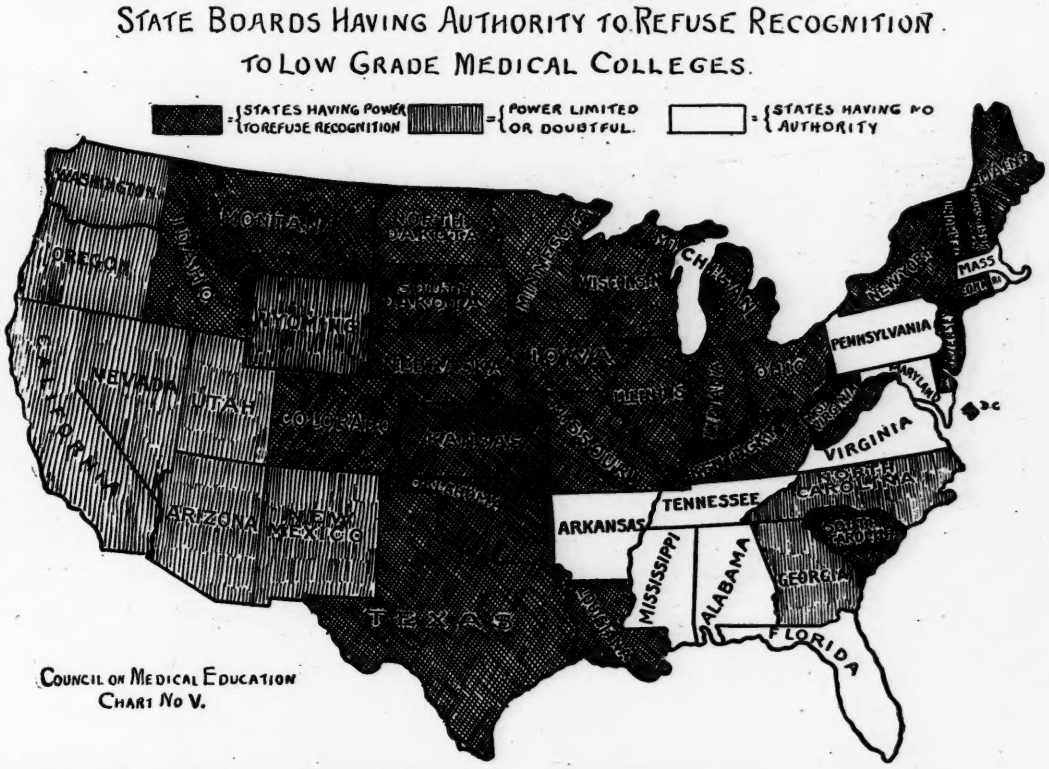
Statistics could be given showing that more important laws influencing medical education have been secured during the

past ten years in this country than in all previous years. In the United States as a whole, therefore, progress toward fair requirements has been quite rapid.

In two respects there is entire uniformity in state laws governing medical practice. All states have boards of registration, whatever their individual names may be, and every state hereafter will require an examination of every applicant. Further, it needs but a glance at the charts here presented to note the rapid trend toward uniformity in other respects.

INSPECTION OF MEDICAL COLLEGES.

In accordance with instructions from the House of Delegates at Atlantic City last year, the work of inspecting medical colleges has been continued. The work has been done mostly in company with representatives of examining boards and inspections have been made of colleges in California, Colorado, Illinois, Iowa, Michigan, Minnesota, Nebraska, New York, North Dakota, Ohio, Oregon, South Dakota, Utah and Wisconsin. As a result of this inspection the grading of colleges made



last year has been confirmed and eight other colleges have been placed in the class rated "below 50 per cent.," which makes a total of thirty-nine medical colleges listed as unsatisfactory.

MEDICAL COLLEGE MERGERS.

Three noteworthy mergers of medical colleges have been brought about since our last conference. Barnes Medical College of St. Louis, at the close of its present session, will be absorbed by the University of Missouri, which, beginning in September, will give its last two, or clinical years, at St. Louis. The Minneapolis College of Physicians and Surgeons, Medical Department of Hamline University merged with the College of Medicine and Surgery of the University of Minnesota. The Indiana Medical College, School of Medicine of Purdue University has merged into the Indiana University School of Medicine so that hereafter there will be but one regular medical school in that state. The last two, or clinical years, will be given at Indianapolis and the first two years may be taken either at Bloomington or at Indianapolis.

WHAT IT COSTS TO TEACH MEDICINE.

From about twenty of our leading colleges it has been learned that while the tuition fees from each medical student amounts to only from $75 to $180, the actual expense of teaching that student per year ranges from $250 to $600 or more each year.

THE B.S. AND M.D. DEGREES IN SIX YEARS.

Considerable interest has been manifested of late regarding the six-year combined course for the baccalaureate and M.D. degrees. From the printed announcements it is learned that thirty-two medical colleges have made provision for this combined course. In the majority of cases it is optional. The list is as follows:

CALIFORNIA.
University of California, Medical Department.
University of Southern California.
CONNECTICUT.
Yale Medical School.
COLORADO.
Colorado School of Medicine.
Denver and Gross College of Medicine.
DISTRICT OF COLUMBIA.
George Washington University, Medical Department.
ILLINOIS.
Rush Medical College (with the University of Chicago).
Northwestern University Medical School.
INDIANA.
Indiana University, School of Medicine.
IOWA.
Drake University, College of Medicine.
State University of Iowa, College of Medicine.
State University of Iowa, Homeopathic Department.
KANSAS.
University of Kansas, School of Medicine.
MARYLAND.
College of Physicians and Surgeons (with West Virginia Univ.).
MASSACHUSETTS.
Boston University, School of Medicine.
MICHIGAN.
University of Michigan, College of Medicine.
University of Michigan, Homeopathic Department.
MINNESOTA.
University of Minnesota, College of Medicine.
University of Minnesota, Homeopathic Department.
MISSISSIPPI.
University of Mississippi, College of Medicine.

MISSOURI.
University of Missouri, Medical Department.
Washington University, Medical Department.
St. Louis University, Medical Department.
NEBRASKA.
University of Nebraska, College of Medicine.
NEW YORK.
Columbia University, Medical Department.
NORTH CAROLINA.
Wake Forest College of Medicine.
NORTH DAKOTA.
University of North Dakota, College of Medicine.
OKLAHOMA.
University of Oklahoma, College of Medicine.
SOUTH DAKOTA.
University of South Dakota, College of Medicine.
UTAH.
University of Utah, College of Medicine.
WEST VIRGINIA.
University of West Virginia, College of Medicine.
WISCONSIN.
University of Wisconsin, College of Medicine.

EXTINCT COLLEGES.

After considerable correspondence a complete list has been prepared of the medical colleges which have ceased to exist, whether by merger or otherwise. Fraudulent schools have been given particular attention and the connection, if any, between any two or more of them has been traced. The complete list shows 350 medical schools, most of which became extinct, others were absorbed, and others took new names. Information regarding any extinct school can now be furnished on demand.

STATE LICENSING EXAMINATION STATISTICS.

The tabulation of statistics based on the various state licensing examinations has been continued as usual. These statistics show the successes and failures of the graduates of medical schools at the examinations, and the percentage of failures of each college. Such statistics are of much value in influencing the colleges to exercise care in the graduation of their students and as a stimulant to better work.

A series of blanks and percentage tables has been developed during the past year which will not only insure greater accuracy but will save much time in the work of tabulation.

We wish here to express our full appreciation of the kind cooperation extended to us by the various state examining boards. It has been through their courtesy that the collection of these statistics has been made possible. The reports are more complete every year, and more valuable deductions can be made.

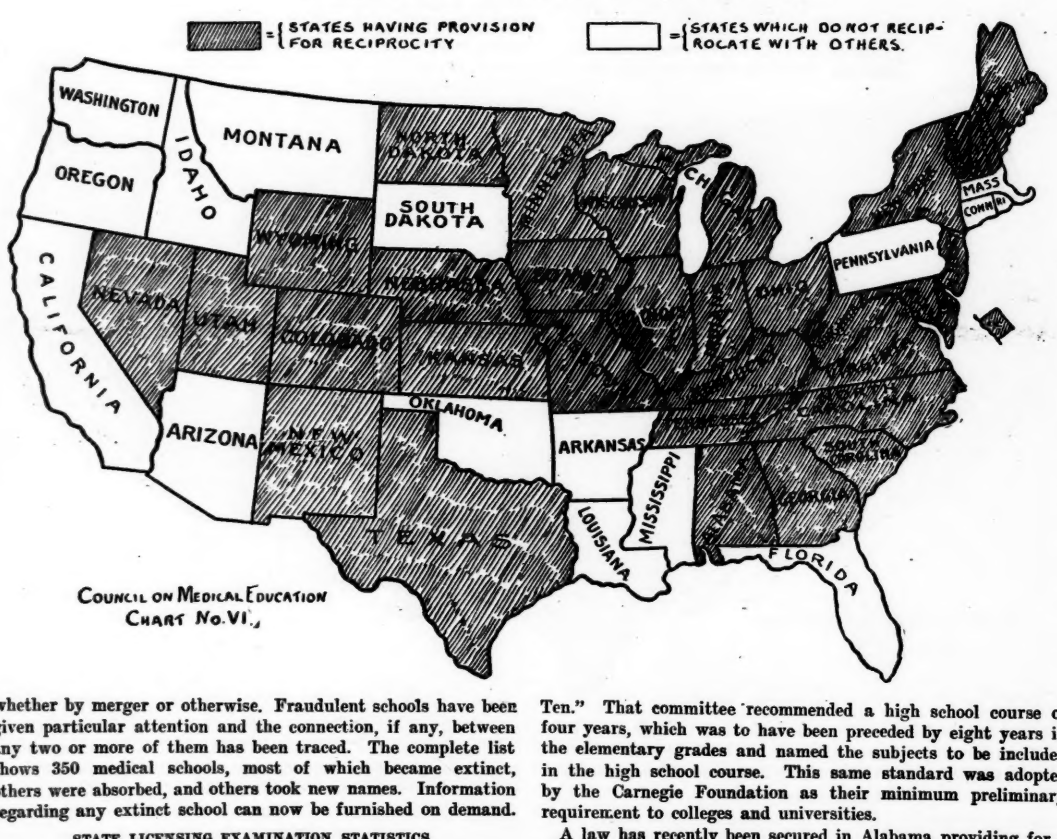
A STUDY OF HIGH SCHOOLS.

Following the recommendations of the House of Delegates at Atlantic City last year that the Council exert its influence toward the establishing of four-year standard high schools in certain southern and western states, a careful study was made regarding high schools in the United States, and tabulated statistics were published in THE JOURNAL A. M. A. Aug. 17, 1907. It was learned that there were eight states where high schools were preceded by only six or seven years of work in the elementary and intermediate grades. These states are Alabama, Arkansas, Georgia, Maryland, New Mexico, North Carolina, Tennessee and Texas, and these states, with the exception of Texas, were also lacking in four-year high schools. A circular was sent to the leading educators of several southern and western states, suggesting the standard high school as recommended by the now famous "Committee of Ten." That committee recommended a high school course of four years, which was to have been preceded by eight years in the elementary grades and named the subjects to be included in the high school course. This same standard was adopted by the Carnegie Foundation as their minimum preliminary requirement to colleges and universities.

A law has recently been secured in Alabama providing for a high school in each county. In Texas and in Virginia an increase in the number of four-year high schools has been reported.

BUREAU OF INFORMATION.

By no means the least of the functions of the Council on Medical Education has been the establishing of a clearing-house for information along the lines of its special work. Requests for information are pouring into the office to such an extent that to save time and much correspondence it has been necessary to issue numerous leaflets, pamphlets and reprints bearing on all branches of the work. As the demands on us for information are increasing, however, the means of fur-



nishing such information are likewise increasing along every line of educational activity.

SUMMARY.

(a) There are 335 medical colleges in the civilized world, of which number the United States has 161, or 48 per cent.

(b) All the medical schools of Europe are medical faculties of universities, or are under the direct control of universities. There are no proprietary schools, such as are found in this country.

(c) The United States is the only leading nation which does not require a thorough preliminary education in physics, chemistry and biology of every matriculant in medical colleges.

(d) Comparison with European medical schools shows that medical education in the United States is deficient both as regards preliminary requirements and in the length of the medical course.

(e) As regards the time necessary to complete the course in medicine, the majority of European countries agree with the ideal standard adopted by the American Medical Association at Portland in 1905.

(f) Primary and secondary education in the majority of European countries may be finished after twelve years of study, agreeing with the time required to complete the public school courses in the United States.

(g) According to the claims of leading educators, the work in the secondary schools of several European countries is the equivalent of the standard high school course in the United States, plus two years of work in a university.

(h) This would seem to indicate that in the results obtained, twelve years of study in primary and secondary schools in Europe are equal to fourteen years of study in the United States.

(i) Eight more colleges have been rated below 50 per cent. as a result of inspections made by the Council during the past year. The number of colleges thus listed as unsatisfactory now reaches 39.

(j) Thirty-two reputable medical colleges offer a combined course whereby the student may obtain the baccalaureate and M.D. degrees in six years.

(k) Fifty-three medical colleges either already require for admission one or more years of work in a college of liberal arts, including courses in physics, chemistry and biology, or have voted to do so in 1910 or before.

(l) Of the medical colleges in the United States several are probably equal to any in the world, and the majority are voluntarily keeping abreast of the demands of modern medicine. There are some, however, which will probably not do so until the state examining boards adopt and enforce higher requirements.

(m) The examining boards of Minnesota and North Dakota, beginning in 1912, will require preliminary education equal to two years of university work. The boards of Colorado, Connecticut and South Dakota will require the equivalent of one year of university work.

(n) Thirty-four states have now established reciprocal relations with four or more other states. Several other state boards have been given legal authority to do so but are not taking advantage of it.

(o) More laws influencing medical education have been secured during the past ten years in this country than in all previous years, and there is a rapid trend toward uniformity of requirements.

IN CONCLUSION.

In conclusion, it should be stated that much splendid work is being done by a number of progressive organizations such as the Association of American Medical Colleges, the American Academy of Medicine and the confederations of examining boards. In addition to that work the American Medical Association, through its Council on Medical Education, is now exerting a constant, steady influence for fairer and more uniform standards of medical education, which will continue to bring good results. Respectfully submitted,

N. P. COLWELL, Secretary.

(To be continued.)

Medicolegal

Validity of City Ordinance as Well as State Law Against "Drumming for Doctors."

The Supreme Court of Arkansas, on the appeal of Burrow vs. City of Hot Springs, affirms a conviction of violating an ordinance of the city providing that any physician or surgeon engaged in the practice of medicine in this city, who, for the purpose of procuring patients, shall employ any solicitor, capper or drummer, or shall subsidize or employ any hotel or boarding-house, shall be deemed guilty of a misdemeanor, and on conviction shall be punished by a fine of not less than $25 nor more than $200, and by the revocation of his license to practice medicine or surgery; that any physician or surgeon whose license to practice shall on conviction under the provisions of this ordinance have his license revoked may appeal from the judgment of conviction, but shall not, pending appeal, be permitted to practice medicine or surgery in this city, and if he does practice, or attempt to offer to so practice pending the appeal, he shall be punished in the same manner and to the same extent as if he had never had any license to practice.

The court holds that the city council had power to pass the ordinance under statutory authority to make and publish such by-laws and ordinances, "not inconsistent with the laws of the state," as it deems necessary, to provide for the safety and to preserve the health, promote the prosperity, and improve the morals, order, comfort, and convenience of such corporation and the inhabitants thereof, it also being given authority to "prohibit, and punish any act, matter or thing which the laws of the state make a misdemeanor," and to prescribe penalties for all offenses committed in violating the ordinance, not exceeding the penalties prescribed for similar offenses against the state laws.

This court in Thompson vs. Van Lear, 77 Ark., 506, passed on what is known as the "Gantt law" (sections 5246 to 5250 of Kirby's Digest), and sustained the act as a proper exercise of the police power of the state in regulating the practice of medicine and surgery. That law makes it a misdemeanor for a physician to procure patients through what are designated "solicitors, cappers or drummers," employed by him for the purpose; and the penalty prescribed by the act was intended to prohibit the drumming by doctors, in the manner set forth in the act. The ordinance under consideration was in conformity with the Gantt law.

So much of Section 5438 of Kirby's Digest as relates to the regulation of "drumming for doctors" must be construed to refer to its regulation in some other way than that designated under the Gantt law; for drumming in the manner designated by the latter act is absolutely prohibited, and the later statute expressly repeals all laws in conflict with it. Under the decision of this court in Thompson vs. Van Lear, and the sections of the Digest (5460 to 5464), the ordinance is valid.

The court need not pass on the question as to whether or not that portion of the ordinance is valid prescribing as a part of the penalty a denial of the right to practice medicine pending the appeal. If the appellant pursued the practice of his profession in the city of Hot Springs or elsewhere in the state pending his appeal, without violating the provisions of the law with reference to "doctor drumming," and he should be convicted for so doing, then on appeal from such conviction the question as to the revocation of his license to practice pending the appeal could be properly raised. As it was he stood convicted of drumming for patients by hired agents. That was the only question the court need consider. As to that it is quite certain that the statute (Gantt law) and the ordinance in question are prohibitive.

Failure of Landlord to Furnish Physician Water in Office.

The Onondaga, New York, County Court says that the case of Rosenbloom vs. Solomon was brought to recover the rent of an office rented in a business block to be used by a physician in his business as a specialist in the treatment of the eye, ear,

nose and throat. The premises were rented at a price and for a term agreed on, "with heat and water." No water was at any time furnished in the room so rented; but there was a faucet in a hallway on the same floor, but some distance away from the office so rented. The defendant vacated the premises before the rent sought to be recovered had accrued. This was, as it seems to the court, a case of a breach of a covenant rather than an eviction. In this case the landlord did not perform the agreement to furnish water. Furnishing water in a modern office building, at a point on the same floor of the building outside of the office so rented, where a tenant can go if he desires, is not a furnishing the room so rented with water. Can there be any question that a surgeon, renting an office with water for the purpose of the practice of his profession in a modern office building, understood and had the right to understand that such an agreement meant water in the room so rented? On the failure of the landlord to perform the covenant to furnish water, the tenant had the right to terminate the contract. The trial judge committed error in directing a verdict for the landlord.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

May 2.

1 *The Cancer Problem. E. C. Savidge, New York.
2 *Effects of Urban Congestion on Italian Women and Children. A. Stella, New York.
3 The Fifth Nerve in Relation to Ophthalmic Conditions. S. H. Brown, Philadelphia.
4 Piece of Catheter Voided During Urination. W. S. Reynolds, New York.
5 Inunction of Iodoform in Tuberculous Peritonitis. S. F. Wilcox, New York.

1. **Cancer Problem.**—Savidge considers that researches as to the cause of cancer based on bacteriologic transmission having yielded no results, nothing can be expected from either antiseptic or antitoxic treatment. Even if the theory of wandering cells from embryonal life were capable of proof, it would give us nothing of value in treatment, for we could never penetrate fetal life and anchor the displaced or wandering cell. Finally, notwithstanding the clean work of surgery, at least in uterine cases, it has been followed with prompt recurrence and speedy death. The indication of the cancer cause, which becomes more conclusive the more we study it, lies in the physical variation, in the isomeric quality of the most primitive elements entering into the composition of protoplasm. Savidge advocates a ferment theory, though nothing so simple as the application of trypsin to the local manifestations of cancer. He doubts "if the cancer problem will ever be solved by the application of a juice to a spot." A certain known, but not understood, "radial" force—of the sun, the *x*-ray, of radium—can act on products containing the asymmetrical carbon atom to change their isomeric quality as shown by polarized light. That one force can so act presupposes that other forces may so act. The natural ferments contained in the secretions of the body, digestive and protective, "digest" one series of isomers and leave the opposite series untouched. Therefore, the action of this occult "radial" force—this assailing of isomeric integrity—can change protoplasm from digestibility to indigestibility to the natural ferments, and vice versa. The local cancer product consists presumably of changed isomers allowed to grow instead of being "digested." These ferments—presumably—begin to modify long before transition from the preliminary to the final state called cancer. Therefore, even if there be no change in isomeric quality, the secretion suppression would explain the growth of the cancer weed cells that effective ferments would have removed. If there be no flaw in these significances, he declares, the cure for cancer as well as its prevention, lies in the realm of synthetic medicine.

2. **Urban Congestion.**—In a paper before the Conference on Congestion of Population, Stella describes the effects of congestion of population in cities, and shows that the evil effects are greater in the case of those who come from country life than of those who were previously town dwellers. He makes a comparison between the Italian quarter in New York, where there is a very high death rate, and the Jewish quarter, only a half a mile away, where the death rate is only one-half as great as the average death rate of the city. "Yet in the latter district there is a greater population, the tenement houses are taller, and the general sanitary conditions are worse." He attributes the difference to a certain immunity against the ills of urban life acquired by the Jews through long residence in cities. Stella discusses in detail the mortality of Italian children and their morbidity (which he attributes mainly to the lack of fresh air and congestion of bedrooms); the mortality and morbidity of Italian women; and graphically illustrates how the congestion leads to the spread of venereal diseases to innocent sufferers. He urges a better distribution of emigrants by directing their attention to the unoccupied countries rather than the cities before they decide to leave their native land, rather than after they arrive at Ellis Island; and, further, for those that remain in New York and other large cities, he urges the provision of sanitary tenements at less than present rentals, which are from 33 to 50 per cent. of their entire earnings.

Boston Medical and Surgical Journal.

April 30.

6 *Urinary Infections with a Variety of the Staphylococcus Albus. A. L. Chute, Boston.
7 *Treatment of Abnormal Rigidity of the Cervix Uteri by Deep Incisions. N. R. Mason, Boston.
8 *Mattapan Day Camp for Consumptives, Boston. D. Townsend, F. P. McCarthy and R. H. Houghton, Boston.
9 *The Plaster-of-Paris Bar or Rope. R. Soutter, Boston.
10 "Figure-of-Eight" Plaster Jacket. J. D. Adams, Boston.

6. **Urinary Infections.**—Chute reports four cases of staphylococcus infection of the urine in which the urine was alkaline but not ammoniacal. The sediment showed great masses of amorphous phosphates and sometimes even crystals of the ammonio-magnesium phosphate at the time it was passed. There was relatively little pus. Stained specimens of the urine of all these cases showed large numbers of organisms having the general morphology of a staphylococcus, and in two instances what was said to be the *Staphylococcus albus* was found on culture. The cases were rebellious to treatment. The picture was that of an infection with an organism of low virulence or pyogenic power, but showing great tenacity when it came to eradication. The chronic cases simulated to a considerable degree the phosphaturias of digestive origin, that one so often sees.

7. **Deep Incisions of Cervix Uteri.**—Mason reports two cases of rigid cervix treated by Dührssen's deep surgical incisions. He describes the technic and concludes as follows: 1. When immediate delivery is demanded in the presence of an undilated and rigid cervix, multiple deep incisions from the border of the external os to the uterovaginal junction furnish the most rapid and safest method of emptying the uterus. 2. There is no danger of the incisions tearing in patients under full term, or in patients at full term, in whom the pelvis is normal and the fetus is of moderate size. 3. There is no risk of hemorrhage when clamps are employed before making the incisions. 4. The chance of septic infection is no greater than after the lacerations occurring at the time of normal delivery. 5. The scars in the cervix and vaginal vault cause no trouble in the course of subsequent pregnancies and labors.

8. This article is dealt with editorially in this issue.

9. **The Plaster-of-Paris Bar.**—Soutter describes the method of reinforcing plaster bandages by means of the plaster bar or rope. He describes the mode of formation as follows: A very wet plaster-of-Paris bandage is rapidly unwound back and forth to the desired length. No attempt is made to rub it or to apply it to the partially applied dressing. When the roll is entirely unwound it is held at one end by one hand, while the other is grasped around it and slid down to the other end, molding it into a bar. It is then slapped into place and rubbed three or four times. This method of reinforcement is more rapid than the time it takes to describe it. By means of the "plaster rope" the bandage may be made very

light. Sometimes it is not necessary to have lightness, but large windows are needed as in cases of pussy dressings, and yet position is sometimes most important in this class of cases. The plaster is put on in the usual way, but not finished; then a lump of sheet wadding is applied at the point where the "plaster bar" is to be laid. Then the plaster is completed. When the window is cut the sheet wadding roll is removed and the bar forms an arch which is as solid as stone, permitting large windows with good margins around the wounds and plenty of room for extensive dressings.

New York Medical Journal.

May 2.

11 *Year's Progress in Tropical Medicine. J. M. Anders, Philadelphia.
12 *Etiology, Prophylaxis and Treatment of the Social Ill. S. A. Knopf, New York.
13 Psychic Phenomena of Intestinal Toxemias and Their Treatment. J. C. De Vries, New York.
14 Who Originated the Method of Rapid Paraffin Imbedding? A Reply to Dr. Pond. A. Stein, New York.
15 Abstraction of Calcium Salts from the Mother's Blood by the Fetus; Cause of Dental Disease in the Former. J. D. Drennan, St. Thomas, Ont.
16 Hysterectomy of a Five Month Gravid Uterus for Carcinoma Uteri; Recovery. W. H. Dukeman, Los Angeles, Cal.
17 Angulation of the Sigmoid. T. B. Spence, Brooklyn, N. Y.

11. **Progress in Tropical Medicine.**—Anders reviews the progress made during the past year in tropical medicine, and deals with plague, more especially in relation to its etiology and the conveyance of the bacillus; with the work of Asburton and Craig in connection with *Filaria philippinensis* and dengue; Musgrave's observations on paragonimiasis; yellow fever and the recent suggestions that the disease is due to a spirochæta; beriberi, and Hewlett and de Korte's hypothesis that it is the result of a protozoan infection; the production of a vaccine from the *Micrococcus melitensis;* and the etiology of intestinal diseases with the symptom-complex known as dysentery; gangosa; Yount and Sudler's work on human myiasis from the screw worm fly; uncinariasis, especially the recent work on anemia in Porto Rico by the Permanent Commission for the Suppression of Uncinariasis; and the work of the International Conference on Sleeping Sickness, held in London. He also notes the formation of the International Society of Tropical Medicine, during the fourteenth International Congress of Hygiene and Demography at Berlin, and the establishment of two new journals, namely *The American Journal of Tropical Medicine and Parasitology* and the *United States Naval Medical Bulletin.*

12. **The Social Ill.**—Knopf objects to the word "evil" in this connection, as it is ordinarily understood as implying wickedness or criminality, and suggests the word "ill," which figuratively means derangement, or an unwholesome condition. We should not call prostitution *the* social ill, but *a* social ill, for there are alcoholism, gambling, etc. He proceeds then to trace the etiologic factors of prostitution, such as trifling physical defects in children, which lead to masturbation. He deals with another social ill, that of child labor, either in factories or in their homes, where young children are compelled to spend a large part of the time which should be devoted to recreation in housework and other responsible duties. In this connection he refers to the work of the Local Consumers' League of New York, which meets the argument that the children's earnings are necessary for the maintenance of the family, in cases where it is proved to be correct, by giving scholarships on presenting a certificate of regular attendance at school to an amount equaling approximately as much as the children would earn if working. He deals with alcoholism and the many other factors of immorality, mentioning the lack of toilet facilities in our cities, whereby a man making use of a saloon feels obliged to take a drink in return. He advocates more play, more sleep, and less work for school children, as a neurasthenic condition in children leads to the desire for alcohol later. He considers that the Gothenburger system, which consists in the manufacture and sale of alcohol by the government, giving the dispenser of alcohol a salary so that no benefit shall accrue to him for the amount of alcohol he sells, an excellent plan, but doubts its practicability in this country. He advocates state institutions for the treatment of alcoholism, to which the habitual drunkard should be committed by law, and those desiring to free themselves from the habit could commit themselves voluntarily. He blames also the thin partitions, as well as the promiscuous mixing of sexes, in crowded quarters as tending to increase demoralization. He refers to the work of the Garden Cities Association of England in distributing the manufactories into country places, with the growing up of new industrial villages about them. He condemns the disreputable dance halls, which are the frequent occasion of a young girl's fall, but cautions the necessity for recreation, and urges that we replace them with other places of amusement. He advocates the enactment of laws with reference to refusal of marriage license to individuals afflicted with venereal disease, and particularly urges an educational crusade, not only with regard to boys, but to girls also. He refers to the present tendency toward crowding together in large cities, and thinks that something must be done to check this, by rendering life in villages and in the country more attractive by good libraries, healthful amusements, etc., so that more people should be willing to live there. He deplores the importation of girls for immoral purposes from abroad. Another point to which he draws attention is the underpayment of girl workers as clerks or saleswomen. He says that many large employers of labor who are philanthropists according to their light, would exercise truer philanthropy in paying those who work for them better wages, rather than in devoting large sums of money to the foundation of churches, hospitals, libraries and charitable institutions when they die. Regarding the social situation as a disease, he says that in other diseases when everything possible in the way of prevention has been done, the disease itself is treated. For the treatment of the ill he enumerates three methods: First, by repression; second, by giving to all those diseased the best scientific medical treatment; and third, by offering to all who wish to leave the ranks of prostitution shelter, protection and work. In regard to the first he advocates some method of segregation, to prevent the diffusion of vice throughout the city and checking the concomitant thievery and other crimes. In regard to the second, he points to the meager supply of beds in the hospitals of our cities devoted to venereal disease and urges a much larger supply. With regard to the third, he urges the establishment of institutions for the reception of those who desire voluntarily to abandon the life into which they have fallen or have been seduced.

Lancet-Clinic, Cincinnati.

April 25.

18 Diagnosis and Prognosis in Gastric Ulcer. R. H. Moss, Niagara, Ky.
19 The Appendicular Artery. B. Robinson, Chicago.
20 Urinary Infections in Children. I. A. Abt, Chicago.
21 How Several Professors Treated a Member of the Guild. G. M. Gould, Philadelphia.

Medical Fortnightly, St. Louis.

April 25.

22 Early St. Louis Medical History. W. B. Outten, St. Louis.
23 Corneal Ulcers. C. P. Frantz, Burlington, Iowa.
24 Hematology from the Clinic and the Laboratory. L. H. Warner, Brooklyn, N. Y.

Journal of Medical Research, Boston.

March.

25 *Tuberculous Infection Through the Alimentary Canal. M. P. Ravenel and J. Reichel, Philadelphia.
26 *Agglutination Studies in Tuberculosis. H. R. M. Landis, Philadelphia.
27 Factors Determining the Coagulation of Blood Serum by Bacteria. D. H. Bergey, Philadelphia.
28 Influence of Blood Serum on Autolysis. W. T. Longcope, Philadelphia.
29 *Congenital Obliteration of the Bile Ducts with Cirrhosis of the Liver. R. S. Lavenson, Philadelphia.
30 *New Method of Examination of the Feces for the Ova of Uncinaria. Report of a Case of *U. Americana* and of a Case of *U. Duodenale.* W. Pepper, Philadelphia.
31 Differentiation of *Bacillus Coli Communis* from Allied Specimens in Drinking Water. D. Rivas, Philadelphia.
32 *Experimental Observations on the Value of Intestinal Antiseptics. J. D. Steele, Philadelphia.
33 Phagocytosis in Diphtheria. B. F. Royer, P. G. Weston and G. F. Clark, Philadelphia.
34 *Syringomyelia with Syringobulbia. J. H. W. Rhein, Philadelphia.
35 *Association of Syringomyelia with Tabes Dorsalis. W. G. Spiller, Philadelphia.
36 *Study of Benign Cystic Epithelioma. M. B. Hartzell, Philadelphia.
37 *The Germicidal Property of Milk. M. J. Rosenau and G. W. McCoy, Philadelphia.

25. **Alimentary Tuberculosis.**—The authors regard the results of their experiments on guinea-pigs, on the whole, as giving confirmatory evidence of the work of others, demonstrating the importance of the alimentary canal as a portal of infection of tuberculosis.

26. **Agglutination in Tuberculosis.**—Like many others, Landis finds that the agglutinin test is valueless as a diagnostic agent in tuberculosis, but he thinks that it forms an available means of estimating the degree of immunity attained in tuberculosis by means of tuberculin and other forms of treatment. Furthermore, he states that the absence of the agglutinating reaction in fluids containing but little albumin, such as cerebrospinal fluid, renders it highly probable that the agglutinins are closely allied to the albumins.

29. **Atresia of the Bile Ducts.**—Lavenson concludes that in the congenital condition of which the two most prominent features are an obliteration of some portion of the bile ducts and a more or less extensive degree of cirrhosis of the liver, the obliteration of the bile ducts is the primary condition and the cirrhosis a result of the ensuing biliary stasis. In the majority of instances, the obliteration of the ducts is the result of an anomaly of development, a failure of the formation of a lumen, hence the term "atresia of the bile ducts" better expresses the existing condition than "obliteration of the bile ducts."

30. **Examination of Feces in Uncinariasis.**—Pepper recommends repeated centrifugalization of a small amount of much diluted feces and the subsequent microscopic search of the sediment. After each centrifugalization the supernatant dirty water is thrown away and fresh water added, the whole then being shaken up and again placed in the centrifuge. In this way all bacteria, free coloring matter, light vegetable matter, etc., are soon got rid of, and only the heavier particles, including any ova that may be present, will remain. After about six repetitions of washing, the sediment can be easily and satisfactorily examined under the low power of the microscope. There is then left no obscuring cloud of bacteria or fine granular débris, but instead each ovum or muscle fiber or crystal or vegetable fiber stands out sharp and clear. A rather peculiar fact is that the ova of the uncinaria, although sticking closely to the glass slide, do not seem to adhere to any of the other constituents of the stool. When a drop of washed sedimented feces is allowed to stand on a slide for a few minutes and then gently immersed in water and examined microscopically, the eggs are found adhering to the slide while all else has been washed away. If additional drops are placed on the slide and washed off, the slide becomes thickly studded with the eggs.

32. **Intestinal Antiseptics.**—In three cases in which bismuth salicylate was used, the daily average amount of bacteria fell within three days after the drug was given to one-half or one-quarter of that in the control observation. In two cases in which betanaphthol was given the bacteria fell after three days to about one-half of the control. In the third betanaphthol case the bacteria increased for three days and then remained about the same as the control for three days; this patient was a young woman with gastroptosis and insufficient gastric secretion, but with no decided symptoms of intestinal disturbance. In this case it is not clear why the drug failed to act, and it must not be assumed without further investigation that the action of these drugs will be the same in a diseased bowel as in a healthy one.

34. **Syringomyelia with Syringobulbia.**—The case presented paralysis of the superior oblique muscle of the right eye, transient ptosis on one side, contracted fields of vision, hemiatrophy of the tongue, hemiplegia and ataxia; there was a cavity in one anterior pyramid of the medulla oblongata, with ascending degeneration in the anterior pyramid on the same side, and leptomeningitis (syphilitic).

35. **Syringomyelia and Tabes.**—While a few cases of tabes with syringomyelia are reported, they are, with one exception (Philippe and Oberthur), all by German authors. This case by Spiller is, therefore, the first to appear in either American or English literature. Several writers have held that the association of the two processes is not merely a coincidence, but that one stands to the other in the relation of cause and effect; others have expressed themselves guardedly. Spiller regards his case as one of tabes associated with syringomyelia.

36. **Benign Cystic Epithelioma.**—Hartzell states that so-called benign cystic epithelioma is a neoplasm having its origin in the hair follicles, and in these structures alone. In view of its follicular origin the name given it by Jarisch—trichoepithelioma—is most appropriate, and should be used to the exclusion of the many others in vogue. Since, in a fair proportion of cases, destructive ulceration has been observed, as well as a tendency to recurrence after removal, the affection can no longer be regarded as a benign one.

37. **Germicidal Property of Milk.**—Rosenau summarizes his article as follows: Judged by the number of colonies that develop on agar plates, the bacteria in milk first diminish then increase in number. This so-called germicidal property of milk occurs only in the fresh raw fluid. For the most part no actual reduction in the number of bacteria occurs. However, when compared with the controls a restraining action is evident. The phenomenon, therefore, appears to resemble that of a weak antiseptic rather than that of a true germicide. When milk is kept warm (37 C.) the decrease is pronounced within the first eight or ten hours. After this the milk has entirely lost its restraining action. When the milk is kept cool (15 C.) the decrease is less marked, but more prolonged. The decrease in the number of bacteria is largely apparent, being due at least in part to agglutination. The bacterial clusters, to a certain extent, may be shaken asunder. This fact goes far to reconcile the discordant results of the various investigations on the germicidal properties of milk. Those who used dilution methods with vigorous agitation broke up the bacterial clusters and thus obtained a larger number of colonies on agar plates than those who plated directly with different technic. Some of the polymorphonuclear leucocytes in milk seem to possess the power of phagocytosis, judged by microscopic preparations. Phagocytosis, however, plays no essential part in the "germicidal" action of milk, for the decrease in numbers is quite as marked in the cell-free milk as in the sediment rich in leucocytes. The germicidal action of milk is specific. For instance, one sample restrained typhoid and *Staphylococcus pyogenes aureus*, but not paratyphoid A or B. Dilution experiments demonstrate the enfeeblement of agglutinins rather than the presence of a germicidal substance in solution. The germicidal actions of blood and milk resemble each other in some particulars. Blood serum acts more quickly and much more powerfully than milk. Freezing milk for ten minutes and then thawing it does not affect the phenomenon in question. In one experiment freezing for forty-eight hours did not influence its restraining action on typhoid, but destroyed it for *Bacillus lactis aërogenes*. Boiling milk or heating it above 80 C. destroys its "germicidal" properties. The effect of lesser degrees of heat varies with the microörganism. Thus the restraining action for *B. lactis aërogenes* is weakened by first heating the milk at 55 C. and almost destroyed at 60 C.; for typhoid it is not affected by heating the milk at 60 C. for twenty minutes, but is materially influenced at 70 C. for thirty minutes. The "germicidal" action of milk varies in different animals and in the milk from the same animal at different times. At most, the action is variable and feeble. It can not take the place of cleanliness and ice, but may be taken advantage of in good dairy methods.

American Journal of Obstetrics, New York.

March.

38 *Recent Advances in Obstetrics. E. B. Cragin, New York.
39 *Early Diagnosis of Pregnancy. E. McDonald, New York.
40 High Rectocele After Perineal Repair. R. L. Dickinson, Brooklyn, N. Y.
41 Fistula Between Fundus of Uterus and Upper Portion of Intestine. Operation; Cure. W. P. Graves, Boston.
42 *Value of Blood Observations in Gynecologic Cases. H. A. Duncan, Philadelphia.
43 *Dystocia from Ventral Fixation. O. P. Humpstone, Brooklyn, N. Y.
44 *The Hymen: Anatomically, Medicolegally and Historically Considered. E. S. McKee, Cincinnati.

45 *Causation and Treatment of Certain Forms of Metrorrhagia. A. P. Clarke, Cambridge, Mass.
46 Puerperal Hemorrhage. J. N. Bell, Detroit, Mich.
47 Treatment of Fractures. D. C. Moriarta, Saratoga Springs, N. Y.

38. **Advances in Obstetrics.**—Cragin considers recent advances in obstetrics along the following lines: 1, Better knowledge of obstetric pathology; 2, better knowledge of the mechanical problem of delivery; 3, better procedure.

1. Distinct advance has been made in the toxemia of pregnancy, as evidenced by (a) pernicious vomiting, (b) eclampsia. (a) The chief pathologic lesion in pernicious vomiting is a fatty and hydropic degeneration of the liver, apt to be diffuse, but in some cases zonal, going on to necrosis. The kidneys show more or less degeneration of epithelium of convoluted tubules. In the urine are present some or all of the following: acetone, diacetic acid, beta-oxybutyric acid, indican, a trace of albumin, sometimes bile pigment, also abnormal nitrogen ratios showing disturbance of proteid metabolism with faulty oxidation. The author's experience shows as a rule a high ammonia nitrogen, high amido acid and undetermined nitrogen, and a low urea nitrogen. (b) Eclampsia is divided into two types, the hepatic and the nephritic. In the hepatic type, aside from the convulsions, the characteristic symptoms are vomiting, perhaps of blood, with little edema; little albumin and few casts, at least until after a convulsion, often jaundice, tenderness over liver, and tympanites. In the nephritic type, headache, disturbance of vision, high tension pulse, nervous irritability, edema, marked albuminuria and casts. The two types are often combined. The nephritic type is again subdivided into two classes: (*a*) Patients who have previously suffered with nephritis and in whom the eclampsia has developed an acute exacerbation of an old type; (*b*) those whose kidneys have been previously free from disease. Regarding puerperal infection we have a better knowledge of the ease with which infection may be conveyed from an infected vulva to a sterile vagina, or changed from a localized uterine infection to a general bacteriemia.

2. As regards the mechanical problem, we have advanced in the method of measuring the fetal head in the latter part of pregnancy; the early recognition of posterior positions of the vertex and early anterior rotation of the occiput are modern advances.

3. In better procedure may be classed more complete and thorough examination of the urine in relation to pernicious vomiting, early diagnosis and hysterectomy in chorioepithelioma, the rule to keep out of the uterus unless it contains material that must be removed, frequent and careful observations of the size of the child's head, the improvement in Cesarean section, etc. The author, however, emphasizes the fact that not all that is new is better than the old. With regard to the immediate repair of lacerations of the cervix, he has seen three cases of marked puerperal infection which he could attribute to nothing else than this cause, and while in proper surroundings and conditions its advantages may be admitted, for the general practitioner the safer rule is the old one—immediate trachelorrhaphy for hemorrhage only.

39. **Diagnosis of Early Pregnancy.**—McDonald analyzes the signs present in 100 cases of pregnancy, varying between the fifth and the thirteenth week. The diagnosis of pregnancy must depend on no single sign, but on the conjoined evidence of a number of signs. The signs of inspection of the vagina offer very reliable evidence before the third month, but they are not of great use before the eighth week. At that time, blush and congestion of the vagina and cervix are present in about half the cases. The diagnosis of early pregnancy must, after all, depend on the changes wrought in the uterus by the growing ovum. Among these changes the most suggestive is irregular enlargement, symmetrical or otherwise. This condition of growth of the uterus is essential to a diagnosis of early pregnancy. Intermittent contractions, while they may exist in other conditions, are the most valuable of the corroborative signs. These contractions may constantly be felt if the conditions of examination are proper and the examination is conducted skilfully. The signs of compressibility and flexibility of the isthmus are of great value in the diagnosis of the condition, and, taken with intermittent contraction and uterine enlargement and softening, allow of a positive diagnosis being made in the early weeks of pregnancy.

42. **Blood Observations.**—Duncan presents some of the conclusions drawn from 300 blood observations: Normal blood findings vary with diet, exercise, hot and cold baths, starvation, etc. Cyanosis, due to general or local causes, purging, hemorrhage, injections of large quantities of normal saline, etc., are some of the causes of error. Negative findings can not always be considered, but positive findings are always of value. In relation to operating, the hemoglobin percentage should be taken not alone, but in relation to the general condition of the patient. Cases of chronic inflammation are more apt to be accompanied by a low hemoglobin percentage than those of acute inflammation. In determining the white blood count the differential count is important. A leucocytosis so low as 9,000 sometimes shows marked increase in polymorphonuclears. This indicates pus with low body resistance. A decided leucocytosis of 20,000 to 30,000 with slight increase in polymorphonuclears clearly indicates a mild infection with active resistance. A high leucocytosis with decided increase in polymorphonuclears means severe pyogenic infection with good resistance. Improvement will be shown by decrease in polymorphonuclears and white blood count. Decrease of white blood count with increase of polymorphonuclears indicates that the pyogenic infection is everpowering the resistance. Leucocytosis and increase in polymorphonuclears are found in many medical conditions, and in this series leucocytosis accompanied sarcoma of the ovaries and carcinoma of ovaries and uterus. The author discusses the clotting power of the blood and describes the technic with Wright's coagulometer, which in his hands gave the normal clotting time as two minutes and from thirty to forty-five seconds. As to the relation between the physician, the surgeon and the laboratory man, Duncan says: "Surely it can not be a sign of ignorance that the physician, or surgeon, who formerly gave his opinion after asking a few questions regarding symptoms, and noting the pulse, temperature and general appearance, should reserve his diagnosis until he has received the report of the microscopist on the blood or body secretions and excretions." But, on the other hand: "No wise surgeon will base his diagnosis or course of action on the blood examination alone. In conjunction with clinical features and the history, blood findings are of great value, both for diagnosis and prognosis. This is especially true in inflammatory conditions."

43. **Ventral Fixation.**—Humpstone reports six cases of dystocia from ventral fixation, and concludes that any operation fixing the uterus, either the newer vaginal fixation or the older abdominal method, is absolutely to be condemned before the menopause unless sterility is assured. Let the uterus be brought into position by some operation on the ligaments, for so far as he is able to find, no dystocia follows such procedure.

44. **The Hymen.**—This article appeared in the *Lancet-Clinic*, March 7, 1908, and was abstracted in THE JOURNAL, March 28, 1908, page 1077. There was published in the *American Journal of Obstetrics*, August, 1904, an article by Dr. George Gellhorn on "The Anatomy, Pathology and Development of the Hymen." The *St. Louis Medical Review* for March reproduces in parallel columns thirteen paragraphs from each of the two articles, some of them of considerable length, the verbatim parallelism between them being indeed remarkable.

45. **Metrorrhagia.**—Clarke mentions among the general causes of metrorrhagia the hydremic form of obesity, plumbism, phosphorus poisoning, icterus, scorbutus, purpura, and certain other forms of chronic disease. The occurrence of any of these several affections tends to diminish the plasticity of the blood and thus to cause disturbances of the circulation, and to lead at times to excessive menstrual flow and to metrorrhagia. The treatment for the relief of hemorrhage from such causes should be directed mainly toward the removal of the original trouble.

Chicago Medical Recorder, Chicago.

March.

48 *Cardiac Symptomatology of Arteriosclerosis. R. H. Babcock, Chicago.
49 *Cardiac and Renal Consequences of Arteriosclerosis. A. R. Elliott, Chicago.

50 *Mistakes in Refractive Work. H. Gradle, Chicago.
51 Complications of the Accessory Cavities of the Nose and Nasopharynx Occurring in Influenza. T. Faith, Chicago.
52 Effect of Influenza on the Nervous System. D. R. Brower, Chicago.
53 *Epidemiology of Influenza. J. H. Salisbury, Chicago.
54 *Religious Psychology. Bishop Fallows, Chicago.
55 Acute Otitis Media. S. E. Wright, Marinette, Wis.

48 and 49. Abstracted in THE JOURNAL, March 8, 1908, pages 1069 and 1070.

50. **Mistakes in Refractive Work.**—Gradle protests against the uncritical use of mydriatics, the zeal to correct all errors and at all times, and the too elastic interpretation of the eye-strain. He discusses various instances of each of these three forms of error.

53. **Epidemiology of Influenza.**—As a result of a study of the history of epidemics of influenza, Salisbury believes that: 1. The epidemic arises from a locality where the disease is endemic. 2. It usually follows the lines of travel without regard to prevailing winds. 3. It may be limited by some insusceptibility in the population. 4. Epidemics vary in severity. 5. The occurrence of the disease is connected in some way with the winter season and with peculiar conditions of the atmosphere. 6. Microbes undoubtedly modify the epidemic picture and are active in determining the lesions in individual cases, but apparently they are not the sole cause. 7. Depressing measures are injurious. 8. Probably the great aggregations of population in large cities favor the endemic character of the disease in recent years and its great severity in individual cases.

54. **Religious Psychology.**—Bishop Fallows discusses the subject of the Emmanuel movement of religious therapeutics, which is not a new sect or cult; no one has to leave his own church to take advantage of it. It simply forms societies for health and happiness, to teach the principles of right living and right thinking. It differs from the modern cults in that 1, it clearly recognizes the reality of the mind and the body and the inseparable relation existing between them, while connected with the human organism; 2, it affirms the value of anatomy, physiology, bacteriology, histology, etc., as well as that of psychology; 3, it maintains the existence of a fundamental distinction between functional and organic disease; 4, it asserts the absolute necessity for the work of the physician; 5, as a proper department of practical church work it aids the poor and necessitous without commercialism. This movement comprehends the principles underlying all that is distinctly known as faith healing, divine healing, mental healing, or any other form of unrecognized psychotherapy. He describes the history and progress of the movement from its origin in Boston sixteen months ago, and emphasizes particularly its cooperation with the medical profession.

New York State Journal of Medicine.

March.

56 *Indications for Artificial Abortion in First Three Months of Pregnancy. C. Jewett, Brooklyn.
57 Regulation of a Rural Milk Supply. S. W. S. Toms, Nyack.
58 *Two Cases of Streptococcus Septicemia Treated by Bacterial Vaccines After Method of Wright. A. T. Bristow, Brooklyn.
59 *Sequence of the Pathologic Changes in Appendiceal Peritonitis. E. M. Stanton, Schenectady.
60 What New York State Is Doing for Its Crippled and Deformed Children at the West Haverstraw State Hospital. N. M. Shaffer, New York.
61 The Nature of Tumors. E. H. P. Ward, White Plains.
62 The Medical Society of the County of New York. J. R. Goffe, New York.
63 Lives of Officers of the Medical Society of the State of New York. J. J. Walsh, New York.

56. **Indications for Artificial Abortion.**—Jewett discusses, without attempting definite classification, the principal indications for the induction of abortion in the first three months of pregnancy. In the present status of Cesarean section, pelvic contraction no longer justifies its routine use. In pelvic tumors the indication depends more on the tumor than on the pregnancy. Operation on the tumor should be governed by the same rules as in the non-gravid woman. Malignant disease of the cervix at its inception calls for hysterectomy. Later, with advanced disease, the child should be allowed to go to viable period. In uterine displacements abortion is only rarely necessary, when liberation of adhesions and reposition of the organ can not be effected by abdominal section. In vesicular mole prompt intervention is indicated. Death of the embryo indicates operation immediately on diagnosis. In toxemia of pregnancy the indication is pernicious vomiting; eclampsia is rare in the first three months. In hyperemesis it is better to interfere too early than too late. In pulmonary tuberculosis Jewett discusses the opposing views of various authorities. His own view seems to be that in light and incipient tuberculosis the disease may be retarded by the termination of pregnancy, and that the indication is plain when the disease grows worse at the onset of pregnancy; in severer types interference usually does no good. In regard to heart disease there seems reason to assume that, except when compensation is good and is likely to remain so, the interests of the patient will best be served by early interruption of pregnancy. In chronic nephritis the chances for the child are small, the risk to the mother's health and life is great, so that he usually advises evacuation of the uterus. With increasing albuminuria, elimination below normal, much ventricular hypertrophy, marked nervous disturbance, or albuminuric retinitis, intervention is imperative. Pregnancy with true diabetes, he thinks, should, with rare exceptions, be terminated in the very first months. Other conditions in which abortion may be indicated are polyneuritis gravidarum, myelitis ascendens, the worst forms of chorea, in rare instances only in psychoses, leukemia and pernicious anemia, and threatened loss of vision from causes dependent on pregnancy. Epilepsy is not recognized as an indication for abortion nor is hysteria, but in hysteroepilepsy the uterus should be emptied. The uterus has been emptied in the early months with marked benefit to the patient in exophthalmic goiter.

58. Abstracted in THE JOURNAL, Feb. 22, 1908, page 639.

59. Abstracted in THE JOURNAL, Feb. 15, 1908, page 558.

California State Journal of Medicine, San Francisco.

March.

64 *The Awakening of Public Interest in Sanitation. W. F. Snow, Berkeley.
65 Eleven Cases of Gastroenterostomy. W. A. Clark, San Leandro.
66 *Spinal Anesthesia. A. Newman, San Francisco.
67 Plea for United States Army Contract Surgeons. H. du R. Phelan, San Francisco.
68 Crimes or Maladies? A. E. Osborne, Santa Clara.
69 Cystoscopic Appearance in Some Cases of Seminal Vesiculitis. R. E. Peck, San Francisco.
70 Zittmann's Decoction. D. W. Montgomery, San Francisco.
71 Perforation in Typhoid Fever Successfully Treated by Operation. E. Newell, San José.

64. **Sanitation.**—Snow considers the methods of bringing about a thorough awakening in reference to sanitation. He insists that what Great Britain has acquired, through the expensive but effectual teaching of terrible visitations of epidemic disease, such as cholera and typhus, is what America most needs—trained, full-time medical officers of health, and security of tenure in office. The requirements to attain these ends are: 1, The active support of a public, educated in personal hygiene and general sanitation; 2, the enactment of adequate legislation covering the duties and powers of our public health departments; 3, proper facilities in our universities or medical schools for training expert assistants in vital statistics, epidemiology, public health, laboratory technic, etc., whom we may appoint to carry out the details of direct investigations on which all our executive actions should be based, if we are to deal effectively and fairly with the varied problems arising from day to day. He concludes by urging the association to work for: 1, paid secretaries for the county health officers; 2, the establishment of a bureau of sanitary survey and epidemiology of the state board of health; 3, better coordination in public health education work.

66. **Spinal Anesthesia.**—Newman discusses in great detail the subject to spinal anesthesia with various anesthetics, and concludes in general that, compared with spinal anesthesia, chloroform and ether are practically harmless. Still the outlook is improving for optimism and indiscriminate puncturing are giving place to a saner attitude; the more poisonous drugs are being eliminated; technic has been perfected and operators have become more skilled; so that, though this method will never

rival ether or chloroform, it will have its uses, and in selected cases will be the method *par excellence*.

St. Louis Medical Review.

March.

72 *Compound Comminuted Fracture of the Bones of the Face. J. F. Menestrina, St. Louis.
73 Case of Hodgkin's Disease, with Autopsy Findings. C. W. Tooker, St. Louis.
74 *Inversion of the Vagina Operated on by Colpocleisis. F. J. Taussig, St. Louis.
75 Gonnorrheal Arthritis. J. V. Shoemaker, Philadelphia.
76 Surgery of the Ureter. B. M. Ricketts, Cincinnati.

72. **Fractured Bones of Face.**—Menestrina reports the case of a miner injured in the head by premature blast of dynamite. The frontal, sphenoid, ethmoid, two nasal, two superior maxillary, right lachrymal, two malar, turbinated, vomer and inferior maxillary bones were more or less fractured and comminuted. Fragments of coal, bone and powder came away daily in the dressing. The patient hovered between life and death for four weeks, delirious nearly all the time, but gradually regained consciousness at the end of the fourth week. The mental condition of the patient three months later was strangely unimpaired considering the extent of the injury. There was no impediment of taste, hearing or smell, and the only sensory disturbance was a marked hyperesthesia in structures supplied by the superficial and portion of the deep cervical plexuses (ascending branches) and descending branches (supraclavicular). There is no condition present which would account for a central origin, and nothing is perceptible in the course of the nerve to indicate a peripheral origin.

74. **Inversion of Vagina by Colpocleisis.**—Taussig reports the case of a widow nearly 60 years of age, who suffered from prolapse of the vagina, the uterus having been removed in 1900 in consequence of complete prolapse. As it was hardly likely that a plastic operation would have given more than temporary relief, the remaining vaginal sac was dissected away, the levator ani fibers were approximated by buried catgut sutures, and the vestibulum vaginæ was closed by interrupted silkworm gut sutures. The recovery, subjective and objective, was complete.

New Orleans Medical and Surgical Journal.

March.

77 *Traumatic Epilepsy. E. D. Martin, New Orleans.
78 *Epileptics in Schools of All Grades, Universities Included. E. M. Dupaquier, New Orleans.
79 Case of Jacksonian Epilepsy. L. L. Cazenavette, New Orleans.
80 *Ocular Tuberculin Reaction in Diagnosis of Tuberculosis. C. C. Bass, New Orleans.
81 *Opsonins and Vaccine Therapy. Id.
82 Report of Antituberculosis League to State Medical Society. E. L. McGehee, Sr., New Orleans.
83 Physiologic Effects of the Waters of Hot Springs, Ark. E. H. Martin, Hot Springs, Ark.
84 Case of Forward Dislocation of the Humeral Head Irreducible by Manipulation. Reduced by Open Operation. F. W. Parham, New Orleans.
85 Fracture with Fibrous Union, Treated by Induced Pin-Callus. W. M. Perkins, New Orleans.
86 Gallstone Disease. J. M. Batchelor, New Orleans.

77. Abstracted in THE JOURNAL, Jan. 18, 1908, page 233.

78. **Epileptics in Schools.**—Dupaquier discusses the so-called epileptic character which demands attention from the educational point of view. What is wanted, he says, is to bring to a focus the nature of this so-called epileptic character, in order that its manifestations may be interpreted in the proper light. He submits a description of this condition, translated from Dr. Paul Boncour's paper in the *Progrès Médical*. Dupaquier points out that the symptoms mentioned are general and neuropathic and that to accept them as pathognomonic of epilepsy without some sign of paroxysmal epilepsy is absurd. He urges those concerned in schools and universities to endeavor to ascertain whether those guilty of severe violence or cruelty in games, hazing, etc., beyond the limits of humane fun and joke are not possibly true epileptics. The family physician should be called in, and if the ordinary paroxysmal manifestations can be shown, the subject may be regarded as a true epileptic; otherwise he should often be regarded as a murderer.

80. **Ocular Tuberculin Reaction.**—Bass summarizes his conclusions from personal experience as follows: (a) The reaction is an immunity reaction, being an expression of acquired immunity, and may occur in healed cases and fail in moribund cases. (b) It occurs in a large percentage, if not all, cases of tuberculosis. (c) It occurs in few, if any, nontuberculous cases, except healed cases. (d) It certainly seems the best method yet suggested of using tuberculin for diagnosiing tuberculosis. (e) Calmette's original claims seem wholly justified. They are: 1. It is absolutely safe. 2. It is so easy of application that any one can carry it out. 3. It produces no constitutional disturbance,and locally only a slight ocular disturbance and lachrymation. 4. It is accurate and delicate at the hypodermic method.

81. **Vaccine Therapy.**—Bass describes the technic in general, and offers an original simplified technic of his own, by which he says that anybody conversant with the use of a microscope and blood counting can determine the tuberculo-opsonic index with fair accuracy, and without the facilities of a well-equipped laboratory, such as the Leishmann technic requires.

Long Island Medical Journal, Brooklyn.

March.

87 *Intestinal Putrefaction as a Factor in the Etiology of Nephritis. H. A. Houghton, Bayside, Long Island, N. Y.
88 *Diet in Chronic Nephritis. L. Louria, Brooklyn, N. Y.
89 *Place of the Medical Spirit in the Ideal Hospital. L. S. Pilcher, Brooklyn, N. Y.
90 Clinical Study of a Case of Sarcoma of the Mediastinum. J. Ronsheim, Brooklyn, N. Y.
91 Clinical Study of Two Cases of Cerebrospinal Meningitis. W. Lintz, Brooklyn, N. Y.

87. **Intestinal Putrefaction and Nephritis.**—Houghton says that the experimental evidence on the relation between enterogenic intoxication and nephritis is meager or negative, and whatever light is to be gathered must come from clinical observation. He details cases tending to indicate an etiologic relation, though not necessarily the sole one, between excessive proteid putrefaction in the bowel and nephritis. With reference to this, he has formulated the following general principles: 1. To some extent the character of the kidney lesion depends on the character of the toxin which produces it. 2. To a greater extent, however, the character of the lesion depends on the amount of toxin to which it is exposed and the length of time over which the process extends. In other words, an irritation so small as to do no more damage than prolonged physiologic overwork will, if continued long enough, produce interstitial change; on the other hand, acute irritation will, in general, be confined largely to the parenchyma. He gives a schematic representation of the common chemical changes in the proteid molecule under the influence of digestive enzymes and the action of bacteria.

88. **Diet in Nephritis.**—Louria discusses the physiologic chemistry of renal excretion in regard to diet. His experience, though limited, enables him to support the French dechloridization treatment. The salt-free diet certainly seems to cause a general improvement of the patient, the diminution of edema, and a loss of weight, all of which seem to be parallel phenomena. Indeed, increase of weight in a nephritic may be interpreted as the first symptom of the beginning of an edema not yet visible. He considers the idea that red meat is more harmful than white, as exploded. As regards the quantity of meat, the nephritic should receive a daily ration of 100 grams of albumin. Assuming that he takes 750 c.c. of milk containing 26 grams of albumin, two eggs with 13 grams of albumin, and that 20 grams of proteids are in other food, as bread, vegetables, etc., there still remains 50 grams of proteid that he can be allowed in the form of meat, which amounts to about half or three-quarters of a pound.

89. **The Medical Spirit in the Hospital.**—Pilcher says that during the last generation, during which time the hospitals of the world have assumed an importance in the world's work never before occupied by them, those institutions have attained the greatest degree of efficiency in the discharge of their functions as hospitals, in which medical men have been accorded special influence in their administration, not necessarily to the extent of having the entire executive control vested in them, but in a manner and degree that has secured to them the opportunity to infuse into the work and development of such institutions in a marked degree their own special medical spirit. The unquestionable superiority of the hospitals of

Germany during the last fifty years may be traced directly to the dominance in their affairs of the medical men who, as chiefs in their several departments, have been vested with influence and power to direct the affairs committed to them unequaled in any similar institution in the world. He cites as an instance the excellent work of St. Mary's Hospital, Rochester, N. Y., which without depreciating the personal qualities of its well-known surgeons, has in large part been rendered possible by continuity of work, continuity of influence, continuity of responsibility, with loftiest ideals and loftiest aims and the loyal and continued support of the sisterhood. He points for further exemplification to the influence of well-known surgeons in the past with English and Scottish hospitals, and of similar instances in this country.

Ohio State Medical Journal, Columbus.

March.

92 *Treatment of Gastric Hypoacidities. M. J. Lichty, Cleveland.
93 Glandular Fever. A. M. Crane, Marion.
94 Radical Cure of Inguinal Hernia. G. Goodhue, Dayton.
95 Hemorrhage from the Bladder with Subsequent Paralysis of the Organ for Three Months. J. G. Albers, Fulda.
96 *Effects of Dye Stuffs on the Skin. W. I. LeFevre, Cleveland.
97 Detection of Calculi of the Kidneys and Ureters by the Skiagraph. K. Dunham, Cincinnati.
98 Corneal Infections. T. F. Bliss, Springfield.
99 Treatment of Purulent Ophthalmia. H. B. Harris, Dayton.

92. **Hypoacidities.**—Lichty lays stress on the fact that many patients do not need treatment for the stomach alone. He has found the hydrochloric acid treatment so disappointing that he now seldom uses it, and only with caution and in small doses. The patient rather than the hypoacidity should be treated. He describes the uses of bitter tonics, and says that surprising as it may seem, in spite of acid deficiency such patients often get relief by the use of alkalies and pancreatin, but the greatest need is to restore,and if possible to exceed, the former nutrition.

96. **Dermatitis from Dyestuffs.**—LeFevre calls attention to the effects on the skin of various dyestuffs used for articles of clothing, etc., and insists on avoiding colored articles of clothing next to the skin. He suggests that with the anilin dyes it may be the mordant used to set the dye—antimony, tin, etc.—that does the harm. He refers also to skin conditions caused by the grease paints used in theatrical make-up.

Journal of the South Carolina Medical Association.

March.

100 *Uncinariasis. W. Weston, Columbia.
101 Liberal Diet in Typhoid Fever. J. La B. Ward, Baltimore.
102 *Sea Bathers' Ear. C. W. Kollock, Charleston.
103 Case of Laparotomy for Gunshot Wound. J. C. Harris, Anderson.
104 Abdominal Drainage. F. L. Potts, Spartanburg.
105 Ocular Injuries. E. W. Carpenter, Greenville.

100. This article is practically identical with one by the same author in the same journal for December, 1907.

102. **Sea Bather's Ear.**—The fact that continued sea bathing is a frequent cause of ear trouble is not a novelty, but Kollock's experience of its frequency leads him to call attention again to the subject. He enumerates certain pre-existing conditions that render the individuals more liable to the injurious effects of sea bathing—an accumulation of wax, a small external canal, or one choked at its entrance with hairs, eczema of the external canal, and all cases of trouble of the middle ear, in which it is particularly likely to set up mastoid disease. He suggests the usual measures for the relief of these conditions, on the principle of quick removal, thorough drying and drainage, and the prophylactic measure of those predisposed by plugging the ear with non-absorbent cotton. Those who have middle-ear disease or perforated drum should not bathe in salt water at all.

Colorado Medicine, Denver.

April.

106 *Recurrent Autohypnotic Sleep, Hysterical Mutism and Simulated Deafness; Symptomatic Recovery with Development of Hypomania. B. Oettinger, Denver.
107 Diagnosis and Treatment of Migraine. H. T. Pershing, Denver.
108 Pernicious Influence of Diseased Tonsils and Adenoids on the General Health. W. C. Bane, Denver.

106. This article appeared in the *Journal of Nervous and Mental Diseases*, March, 1908.

Virginia Medical Semi-Monthly, Richmond.

April 24.

109 Salient Points on the Proper Control and Examination of a Sick Child and the Value of Symptomatology. G. W. Cocke, Danville.
110 Treatment of Acute Lobar Pneumonia. O. C. Wright, Jarratta.
111 Case of Ectopic Gestation. J. W. Dillard, Lynchburg.
112 Treat the Patient; Eliminate Toxins. J. Burke, Manitowoc, Wis.
113 Principles of Surgery. S. McGuire, Richmond.

Southern California Practitioners, Los Angeles.

April.

114 Hot Air in Therapeutics. P. C. H. Pahl, Los Angeles.
115 Bier's Hyperemia or the Use of the Elastic Bandage in Disease. C. D. Lockwood, Pasadena.
116 Hyperemia as a Curative Agent. W. W. Richardson, Los Angeles.
117 Hyperemia in Diseases of the Eye and Ear. F. W. Miller, Los Angeles.
118 Limitations to the Use of Antiseptics and Vaccines in Modern Treatment of Pathogenic Bacterial Invasions. G. Martyn, Los Angeles.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

April 18.

1 Anatomy of the Long Bones Relative to Certain Fractures. R. Thompson.
2 The Pygmy and Negro Races of Africa. F. C. Shrubsall.
3 Blood Pressure, Chlorin Retention and Dechlorination, Hyperacidity and Variations in the Starch Ration. H. Higgins.
4 *Epidemiology of Diphtheria in the Light of a Possible Relationship Between the Diphtheritic Affections of Man and Those of the Lower Animals. L. W. Sambon.
5 Cavity of the Lung Successfully Treated with Ozone. G. Stoker.
6 Anterior Dislocation of the Sternal Ends of the Clavicles; Treatment by Fracture of the Clavicles with Good Results. T. H. Middlebro.

4. **Diphtheria.**—Sambon calls attention to the not infrequent simultaneous occurrence of epidemics of diphtheria among humans and various animals, especially pigeons, turkeys and other birds. Considering that human diphtheria is easily transmitted by inoculation to many kinds of animals it is only reasonable to suppose that it may be conveyed by them to man. He compares our position with relation to diphtheria, in regard to reciprocal transmission, with that concerning tuberculosis. While, however, bacteriology and experimentation must settle the relation between human and animal diphtheria, the study of the epidemiology of the disease must not be neglected. Hitherto it has been entirely misunderstood, many medical officers of health even yet believing it to be brought about by faulty sanitary circumstances. A careful examination of reports of numerous outbreaks shows clearly that insanitary conditions of dwellings, defective sewerage, polluted water supplies, poverty and uncleanliness have no special connection with the incidence of diphtheria, though by lowering resistance they may favor the spread of disease. Longstaff has shown the coincidence of a low diphtheria mortality with the greatest density of population and the highest general mortality, while in other (country) districts where opposite conditions prevail a high diphtheria mortality coexists. Diphtheria shows itself with equal frequency and intensity among the poor and the rich, in the filthiest tenement houses and in the healthiest surroundings. It is eminently a disease of rural districts, scattered over wide areas, most cases occurring in isolated farm houses, without any traceable communication. As soon as we recognize the unity of the disease in man and in the lower animals we immediately understand its geographical peculiarities, its seasonal prevalence, its cyclical recrudescences, its rural distribution, its preference for the neighborhood of water bodies, its progress along the direction of prevailing winds, the frequent occurrence of cases in isolated farmhouses and in out-of-the-way places along the sea coast, the greater prevalence among children, especially female children, the heavier toll it levies on mounted troops as compared with infantry, the connection with manure, the recent increase in towns, the unimportance of geologic, orographic, meteorologic and sanitary conditions. He refers to the agency of flies, which feed on horse manure, as transmitters, and the frequent occurrence of the disease in fowls, turkeys, peafowl, guinea fowl, pheasants and partridges, and especially quail, and cites the passage in Numbers, xi, 31-34, as being probably an instance of the transference of

diphtheria from quail to man. He has also found false membranes in the oviduct of a hen pheasant, from which he concludes that raw eggs may play a part in the transmission of the disease.

British Medical Journal, London.

April 18.

7 *Bronchitis and Emphysema. Sir J. Barr.
8 Physiologic and Pathologic Effects Following Exposure to Compressed Air. M. Greenwood.
9 Primary Pneumococcic Peritonitis. A. Cuff.
10 *Rectal Temperature After Muscular Exercise. M. Flack.
11 Calmette's Ocular Reaction. T. H. Butler.
12 So-Called Stimulating Effect of Alcohol on Protoplasm. W. H. Kesteven.

7. **Bronchitis and Emphysema.**—Barr says that heredity plays an important part in the etiology of bronchitis; but chill, though undoubtedly an etiologic factor, has been greatly overrated. Dry cold does little harm. It is the excess of moisture rather than the coldness of the atmosphere which works mischief, but yet, strange to say, some physicians still continue to use the bronchitis kettle. This Barr vigorously condemns. With nasal breathing there is not much danger of any degree of cold damaging the bronchial tubes, though sudden variations of temperature do injury. The injurious effect of cold, when it happens, is a reflex on the nervous system of the bronchial tubes. When cold has damaged the mucous membranes, causing shedding of the epithelium, the microorganisms in the air passages keep up the work. Gases and vapors also may damage the membrane and set the germs in action. The excretion of toxins or irritating substances absorbed from the digestive tract, amounting, if alcohol be included, to from 50 to 70 per cent., is also a fertile cause of bronchitis. This effect he regards as due not to irritation, but to vasomotor paralysis. Every person with a liability to bronchitis should forswear the use of alcohol in all forms. Carbohydrates and fats should be cut down, but a liberal amount of nitrogenous food may be allowed. Diet should not be too liquid, but hot water is permissible. With deficiency of lime salts, when expectoration is free and albuminous, a moderate amount of milk and some preparation of gelatin may be given. Scanty and tough secretion indicates excess of lime salts in the blood and contraindicates milk and gelatin. Sodium chlorid should be restricted. Calomel and sodium sulphate are the best purgatives. Expectorants, e. g., ammonium carbonate, are injurious in acute cases and should be reserved for chronic cases. He agrees with Eustace Smith as to the value of antimony (THE JOURNAL, March 28, 1908, p. 1081) and commends compound tincture of camphor with ipecac. With tough and scanty expectoration decalcifying agents, e. g., sodium and potassium citrates should be administered. Calcium lactate, milk and jellies are necessary when the expectoration is very liquid, profuse and albuminous. In bronchial spasm the nitrites and potassium or sodium iodid are important. Counterirritants are valuable on principles explained by the lung reflex of Abrams. *Effleurage* and *tapotement* which cause, respectively, expansion or contraction of the lung, are useful. Barr discusses somewhat at length the physics of emphysema and says that instead of keeping the lung walls taut, as many are taught to do, the lungs should be kept elastic and given plenty of exercise. The way to exhaust the elasticity of a lung, as of a piece of rubber, is to keep it constantly on the stretch. Patients should be taught to breathe not with their diaphragms, but with their thoraxes. The diet should be restricted in emphysema, cutting down fats and carbohydrates, but giving a liberal allowance of nitrogenous foods as long as the kidney excretion is maintained. Other directions are similar to those given above for bronchitis, especially as regards the indications dependent on the quantity of lime salts in the blood. For drugs he recommends iodids and iodin, and, if there is much cough, some preparation of opium. If the costal cartilages are rigid, he advises operation, as recommended by Freund.

10. **Temperature and Muscular Exercise.**—Flack points out that the mouth and the axilla are very unreliable for taking temperature and that the most reliable method is by rectum. He reports the results of some observations by Leonard Hill and himself at the interhospital sports, in which the temperature was taken by rectum immediately after the event and also after the lapse of from 10 to 28 minutes. From these observations it appears that the increase in body temperature after hard muscular work is often very great, and may reach 105 without any subsequent ill effect, and that the longer the effort the higher the temperature rose. The individuals themselves exhibited no marked signs of warmth or dyspnea.

Medical Press and Circular, London.

April 15.

13 *Clinical Varieties of Chronic Rheumatism. J. Teissier.
14 Points in Connection with Therapeutic Immunization. Sir A. E. Wright.
15 Points of Practice in Maladies of the Heart. Sir J. Sawyer.
16 Case of Exophthalmic Goiter Treated by Thyroidectomy. W. Taylor.

13. **Chronic Rheumatism.**—Teissier distinguishes three clearly defined groups of symptoms: primary deforming arthropathies, running a regular, progressive, symmetrical non-inflammatory course, with a trophic neurotic basis, in the etiology whereof nothing can be invoked beyond damp cold; chronic joint affections consequent on acute articular rheumatism or some infective disease (chronic infective rheumatism); and, lastly, chronic diathetic arthropathies dependent on intoxications and certain non-intoxications. He discusses these groups in detail and concludes that true chronic rheumatism is of infective origin, but the infection may provoke arthritis in two different ways: (1) indirectly by a trophoneurotic process, that is to say, by the primary action of the poison or the toxins on the central nervous system and the medullary roots; (2) directly by the action of bacterial poisons on the synovial membranes or the periarticular connective and fibrous tissues. Active infections tend to attack the joint forthwith; they have septicemic tendencies, which are often revealed by heart lesions; this is infective chronic rheumatism. Infections that exert a slow but prolonged action act preferably on the nervous system, and it is through its intermediary that they produce trophic disturbances; this is trophoneurotic deforming rheumatism.

Clinical Journal, London.

April 8, 1908.

17 Operative Treatment of Cancer of the Large Bowel. W. A. Lane.
18 Two Cases of Traumatic Spastic Paraplegia. R. P. Rowlands.
19 Chronic Intestinal Obstruction. H. L. Barnard.

April 15.

20 *Acroparesthesia. J. A. Ormerod.
21 Treatment of Gonorrhea in the Male. J. G. Pardoe and A. Baldwin.

20. **Acroparesthesia.**—Ormerod considers this condition rather a group of symptoms than a disease—numbness, tingling, pins and needles, etc., in hands and feet, with pain in the same parts, and a sense of uselessness in hands and arms, giving rise to a fear of paralysis. The hands turn pale or red or become swollen; occasionally there is impairment of sensory power of fingers. The symptoms are paroxysmal, and the incidence at night, though by persisting through the day the condition may become continuous. The predisposing causes are female sex, age between 20 and 50 years, occupation calling for overuse of hands, and certain constitutional conditions, anemia, dyspepsia, etc. It is rare in true hysteria. The pathogenesis is unknown. The symptoms suggest interference with nerve supply rather than with vascular supply, as is commonly thought. As to treatment, Ormerod finds rest from the causative work, with simple general remedies, iron, gentian and rhubarb, or potassium bromid according to symptomatic indications, sufficient. Galvanism to hands and arms is excellent. The prognosis is not so unfavorable as foreign authors seem to think, and the patient may be encouraged as regards the unlikelihood of paralysis. It is necessary, however, to make sure that the case is really one of acroparesthesia, for peripheral neuritis, progressive degenerations of the cord, and Bright's disease may lead astray.

Medical Chronicle, Manchester.

March.

22 *Case of Phosphorus Poisoning, with Observations on Amino-Acid Excretion. F. H. Edgeworth and I. W. Hall.
23 Cholesterol, Fluid Crystals and Myelin Forms. C. P. White.
24 Gas-Containing Cysts or Air-Bladder Tumors. W. Mair.
25 Case of Hemolymph Glands. J. L. Smith.
26 *Colorless Feces without Jaundice. J. D. Mann.
27 Case of Tuberculous (?) Intraocular Growth. A. H. Griffith.
28 Chronic Joint Disease of Still's Type. E. N. Cunliffe.

29 Blood Plates. E. M. Brockbank.
30 Pathogenic Properties of and Amount of Dirt Contained in the Milk Supplied to Manchester, 1897 to 1906, Inclusive. S. Delépine.

22. **Phosphorus Poisoning.**—Edgeworth and Hall report a case of phosphorus poisoning, the result of taking, with suicidal intent, the heads of a quantity of matches, the approximate amount of phosphorus being 0.0619 gram. The physiologic chemistry of the effects is closely gone into. The authors conclude that we can exclude decreased oxygen supply to the tissues as a cause for the effects seen in phosphorus poisoning; but there are distinct signs of a diminished oxidative capacity of the tissue cells, and it may be that phosphorus acts directly on the cell protoplasm. It has a selective affinity for certain cells, especially those of the liver, kidneys and heart.

26. **Colorless Feces.**—Mann discusses the chemistry of the color of feces. He decides that the assumption of a temporary stoppage of bile does not account for all the cases of colorless feces which do not darken on exposure. He has long felt convinced that the presence or absence of urobilin does not account for all the variations in fecal coloration, and is disposed to believe that other unrecognized pigments (apart from the coloring matter of food) contribute toward it. The pathologic conditions in which colorless feces without jaundice may occur comprise defective supply of bile to the duodenum, intestinal catarrh, tuberculous abdominal disease, malignant disease of the intestine, septic diseases (especially those which affect the abdomen), chlorosis, and leukemia.

British Journal of Children's Diseases, London.

March.

31 *Congenital Syphilitic "Osteitis Deformans." F. P. Weber.
32 Late Effects of Inherited Syphilis. J. P. Parkinson.
33 The Notching of Lower Permanent Incisors in Congenital Syphilis. C. E. Wallis.
34 Syphilitic Nephritis. L. Guthrie.
35 Congenital Syphilis in Children. G. Carpenter.

31. **Syphilitic Osteitis Deformans.**—Weber discusses the differences between the osteitis deformans of congenital syphilis and that of Paget's disease, and concludes that the former may be distinguished from the latter by (1) the youthful age of the patients in the syphilitic cases; (2) the relative absence of pain in the syphilitic cases, pain being often extreme in Paget's disease; (3) the favorable result of specific treatment in the syphilitic cases; (4) the tibia in the syphilitic form and the femur in Paget's form are most frequently affected; (5) in syphilitic cases there are frequently irregular losses; (6) there is no tendency for malignant tumors to supervene in syphilitic cases as there is in Paget's disease; (7) in the syphilitic form other evidences of syphilis are often present.

Annals of Tropical Medicine and Parasitology, Liverpool.

February.

36 So-Called Canary Fever. C. E. Walker.
37 A l'étude de Porocephalus monliliformis. A. Broden and J. Rodhain.
38 *The Habits, Life Cycle and Breeding Places of the Common House Fly. R. Newstead.
39 Morphology of Spirochæta Duttoni in the Organs of Rats. J. J. van Loghem.
40 *Malaria and History. W. H. S. Jones.
41 Two New Human Cestodes and a New Linguatulid. J. W. W. Stephens.

38. **The House Fly.**—Newstead reports the results of an investigation undertaken by the health committee of the city of Liverpool into the habits of the common house fly. Their breeding places were found to be horse manure, or a mixture of this with cow dung, fermenting hops, ash pits containing fermenting vegetable matter, all temporary collections of fermenting matter. Very dry or wet ashes or moist cow dung does not harbor them. They do not breed in ash pits emptied at short intervals; covered ash pits were as badly infested as those that were open. The flies breed in relatively small numbers in ash pits where no fermentation takes place. The use of disinfectants in ash pits does not prevent their breeding. Where fowls, not ducks or geese, were kept and allowed freedom in the yards, relatively few larvæ and pupæ were found. The avidity with which the latter were seized on by fowls when offered to them connects their presence with the result. The flies feed on moist decaying vegetable matter, manure, animal and particularly human, rotten flock beds, straw mattresses, old cotton garments and sacks and waste paper, bread, decayed fruits and vegetables, and excreta of animals generally. The life cycle of the fly, in all kinds of fermenting materials, is reduced to the minimum period of from ten to fourteen days, and in the absence of such artificial heat the cycle may occupy a period of from three to five weeks or more, according to the temperature of the outside air. House flies do not depend entirely on excessively warm weather for breeding purposes, though in hot seasons they breed much more rapidly in non-fermenting materials, and their numbers, under such conditions, are greatly increased. Nine other species of fly are described with short notes of their habits and prevalence. The article is illustrated.

40. The subject of this article was commented on editorially in THE JOURNAL, April 11, 1908, page 1197.

Archives des Maladies du Cœur, des Vaisseaux et du Sang, Paris.

January 1, No. 1, pp. 1-64.

42 *Pharmacodynamic and Therapeutic Action of the Nitrites. H. Vaquez.
43 Histologic Action of Roentgen Rays in Lymphoid Leukemia. P. Menetrier and A. Touraine. Concluded in No. 2.
44 *Alimentary Poisons and Atheroma. M. Loeper.

February, No. 2, pp. 65-128.

45 Irregularities of the Heart. (Irrégularités du Cœur.) K. F. Wenckebach.
46 Blood Reaction in Experimental Lead Poisoning. (Réactions sanguines dans le saturnisme expérimental.) C. Aubertin.

March, No. 3, 129-192.

47 Elimination of Sodium Chlorid in the Urine and Systematic Reduction of Salt in Diet in Treatment of Chronic Sclerous Myocarditis. (Chlorurie et diététique hypochlorurée méthodique dans la cardiosclérose.) G. Etienne.
48 Action of Radium on Connective and Vascular Tissue. H. Dominici and Barcat.
49 Presence in Blood During Hypertension of Substances Modifying the Arterial Pressure. O. Josué and L. Bloch.

42. **Therapeutic Action of the Nitrites.**—Vaquez reviews his experimental and clinical experience with amyl and sodium nitrite, spirits of glyceryl trinitrate and other nitrous compounds; it teaches, he thinks, that in order to obtain the desired benefit from administration of the nitrites they must be given before the system regulating the blood pressure has had opportunity to adapt conditions to counteract the modifications induced by the drug. The action is more inconstant the later it is manifested and it is inevitably transient. These drugs can tide the patient past some critical period, but they have no permanent influence on habitual hypertension. They should not be used systematically for this purpose, one argument against it being that they would thus lose their power when needed at a critical moment. Spirit of nitrous ether is the only one of the group to which the above does not apply; this drug is more of a general sedative for the circulatory system than a reducer of tension, and it does not contraindicate the use of the other preparations at need. He advocates it in the doses of from 2 to 4 gm. (30 to 60 grains) a day, in divided doses, kept up for a long time. But when occasional prompt action is necessary the organic nitrites must be called on, and he enumerates the reasons which have made him reject all but nitroglycerin. This he regards as the one remedy for angina pectoris and paroxysmal edematous dyspnea in persons with arterial hypertension. He has it put up in vials containing a single dose, five drops, of the official alcoholic solution, to be diluted with water and taken at the onset of the attack. Its prolonged use will neither prevent the paroxysms nor remove the cause. He believes that the toxicity of the drug has been much exaggerated; some of his patients took up to forty drops a day without injury.

44. **Alimentary Poisons and Atheroma.**—Loeper gives illustrations of processes of calcification and atheroma found in the arteries of animals under the influence of certain alimentary poisons. If the diet could be strictly atoxic from beginning to end, then atheroma could be warded off, he says. Oxalic acid was particularly active in inducing atheroma in his rabbits, and he warns that rhubarb, spinach and tomatoes contain an unusually large proportion of oxalic acid, which is also present, he says, in large proportions in tea, coffee, kola and cocoa. The latter also contains, he states, from 0.65 to 2 per cent. of theobromin, and theobromin is another vascular poison, as he shows by the atheroma induced in rabbits by injection of

theobromin acetate. Administration of lime salts had also a marked favoring action on the experimental atheroma. The lesions induced in his experiments were always calcification of the middle layer of the vessel wall; no tendency to sclerosis was ever noted.

Presse Médicale, Paris.

April 4, XVI, No. 28, pp. 217-224.

50 *Present Status of Treatment of Measles. (Rougeole.) J. Hallé.
51 Oxygen Admixture Not an Improvement for Brief Ethyl-Chlorid Anesthesia. L. Camus.

April 8, No. 29, pp. 225-232.

52 *Re-education of "False Gastropaths." J. Dejerine and E. Gauckler.

April 11, No. 30, pp. 233-240.

53 *Suture of Blood Vessels. (Suture des vaisseaux.) A. Frouin.
54 Facial Hemispasm Plus Motor Disturbances on Other Side. (Hemispasme facial alterne.) Brissaud and J. A. Sicard.
55 *Syphilis and Cancers of the Mucosa of Mouth and Pharynx. M. Letulle.
56 Diagnosis of Syphilis by Ultramicroscope. P. Gastou

50. **Treatment of Measles.**—Hallé lays stress on hygienic measures, remarking that in hospitals and asylums, however, sometimes the most scrupulous hygiene does not seem able to reduce the mortality below a very high percentage. He disinfects the eyes systematically with a hot boric acid solution three times a day at first and with silver nitrate in case the conjunctivitis appears severe, using one or two drops of a 1 per cent. solution. The nose, mouth and vulva must be examined and kept disinfected, and convalescents must not be allowed to go out until the throat and skin are entirely normal, generally not under twenty-one days. Glandular lesions frequently develop in children allowed to be out too early, even in summer. The children are liable to lose several pounds and not regain them under two or three months. Of all the complications of measles, bronchopneumonia is most to be dreaded on account of its frequent recurrence, its prolonged convalescence and the debility. It should be suspected by the fourth day after the eruption if the temperature remains high.

52. **False Stomach Affections.**—Dejerine and Gauckler express astonishment that so few seem to comprehend the purely psychic origin of a number of gastric affections. They call such patients "false gastropaths" and say that treatment must aim to re-educate them to a more normal diet. These patients are generally affected with neurasthenia, which causes loss of appetite, and they believe that the stomach is out of order. Other disturbances follow, and these the patients strive to remedy by restricting the diet. Dietetic re-education is the main point in the treatment, and it must be gradual to be effectual. Sometimes a preconceived idea in regard to the digestibility of an article must be argued down. They cite a typical case in a man of 52 who had suffered from gastric disturbances for fifteen years and was extremely emaciated. The first week he was given 4 quarts of milk a day; the second week, 5 quarts; the third week, 4 quarts of milk, 4 eggs, and a small amount of raw chopped meat in broth; the fourth week, with 3 quarts of milk a day, the dinner and supper included roast meats, mashed vegetables, eggs and pudding, and by the fifth week ordinary diet was resumed. By this time the patient was restored to health and was able to return to business which he had abandoned four years before on account of this imagined stomach affection. Dejerine is convinced that in many cases of supposed stomach affections in which a cure followed the application of various measures the real reason for the cure was the unconscious re-education of the patient to a rational diet. Such cures are liable not to be permanent, as the underlying psychic derangement persists unmodified.

53. **Suture of Bood Vessels.**—Frouin states that his experience has confirmed the good results possible when an artery and vein are sutured together, end to end, or when a segment of a vein is implanted in the place of an excised segment of an artery. He gives several illustrations of the findings months after operations of this kind on animals.

55. **Syphilis and Cancer of the Mouth and Throat.**—Letulle comments on the hundred cases on record in which cancer developed on the basis of an old or recent syphilitic lesion in the mouth or throat. He also gives an illustrated description of a similar case, distinguished by the fact that the parasyphilitic epithelioma in the old syphilitic cicatrix in the throat, accompanied a carcinoma in the stomach, and the former was an autopsy surprise. He calls attention anew to the unfavorable influence of mercurial medication on these cancers in the mouth and throat in syphilitics and emphasizes the etiologic importance of syphilis as the precursor of cancer in this region.

Bulletin de l'Académie de Médecine, Paris.

April 7, LXXII, No. 14, pp. 393-412.

57 *Are Intestinal Worms an Inciting Cause in Typhoid Fever? Chantemesse.

57. **Helminths and Typhoid Fever.**—Guiart has recently stated that no one whose intestines are free from helminths need fear typhoid fever, and consequently Chantemesse has been examining 134 typhoid patients and 62 with other affections in respect to the prevalence of intestinal parasites. He found that the proportions were no higher in the typhoid group than in the non-typhoid, and that there seemed to be no connection between the number of parasites and the development or course of the typhoid fever. His investigations, however, revealed that the trichocephalus was present in 67 and 72 per cent. of the 134 and 62 inmates of the hospitals examined, other helminths being found in only 11 cases. He ascribes the great increase in the prevalence of the trichocephalus to ingestion of salads and fruit grown on the sewage farms around Paris.

Berliner klinische Wochenschrift.

April 13, XLV, No. 15, pp. 725-772.

58 *Treatment of Tendon Sheath Phlegmons. (Die Behandlung der Sehnenscheidenphlegmone.) B. Klapp.
59 Special Nervous Symptoms in Addison's Disease. L. Wagner.
60 Serum Diagnosis of Syphilis. (Wassermann'sche Syphilisreaktion.) R. Beneke. Id.; Rôle of the Lipoids. O. Porges and G. Meier.
61 Pathogenesis of Salivation. H. Roeder.
62 Symptomatology of Chorioepithelioma, Especially of Metastasis in the Lungs. E. Scheidemandel.
63 Roentgen Determination of Gastrectasia and Pyloroptosis. F. M. Groedel.
64 Myosis with Reflex Immovability of the Pupils. G. Levinsohn.
65 Puerperal Sigmoiditis and Perisigmoiditis. F. Lehmann.
66 *Sign of Stricture of Esophagus. P. M. Rewidzoff.
67 Leukemic and Pseudoleukemic Cutaneous Affections. A. Alexander.

58. **Treatment of Tendon Sheath Phlegmons.**—Klapp says that fine functional results have been obtained in 19 cases by what he calls the "physiologic method" of treatment. He makes an incision on each side of the phalanx on the palmar aspect, skipping the joints, cutting down to expose the tendon and passing a sound through the two incisions. This allows free escape to the pus and secretions. The tendon sheath is thoroughly rinsed with salt solution, the wounds are dressed with salve, but not drained or tamponed. The hand and arm are wrapped in an alcohol dressing, and the patient reclines with the arm horizontal. The dressings are changed every day. The first two or three days a half-hour bath in warm salt solution is given, and active and passive movements are practiced daily. When suppuration ceases and the inflammation subsides he supplements these measures with superheated air, which promotes function. In ten cases the patients recovered complete function, with partial necrosis in one case; in two cases of large felon both patients were cured with partial necrosis in one case; in six patients with extensive bone lesions there was more or less necrosis in four, but in two healing was complete; one patient with sepsis succumbed.

66. See abstract 53 on page 1085 of THE JOURNAL, March 28.

Deutsche medizinische Wochenschrift, Berlin.

April 9, XXXIV, No. 15, pp. 625-680.

68 *Medicine and Overcivilization. (Medizin und Ueberkultur.) W. His.
69 *True Systolic Retraction of Apex Beat and Abnormally High Position of Aorta. (Systolische Spitzenstosseinziehung und abnorme Hochstand des Aortenbogens.) N. Ortner.
70 *Uric Acid Arthritis with Enlarged Spleen and Reduction of Leucocytes. (Arthritis urica, Megalosplenie und Leukopenie.) R. v. Jaksch.
71 Occasional Partial Hyposystole of the Ventricles of Mammalian Heart. (Zeitweilige partielle Hyposystolie der Kammern des Säugetierherzens.) H. E. Hering.

72 Bronchoscopy for Shawl Pin in Left Bronchus. H. v. Schrötter.
73 A Carcino-sarcoma of the Throat. (Ein Carcino-Sarkom des Recessus piriformis bei Ekchondrose des Ringknorpels.) O. Kahler.
74 Ocular Reaction in Typhoid. (Ophthalmoreaktion bei Typhus abdominalis.) O. Orszag.
75 *Bradycardia in Appendicitis in Children. J. v. Bokay.
76 *Ileus as Complication of Gonorrheal Epididymitis. D. Balas.
77 *Diagnosis of Embolism of Pulmonary Artery. H. Eichhorst.

68. The Family Physician and Overcivilization.—His reviews various historical epochs which bear more or less of a resemblance to this overcivilized age and says that too much civilization, increasing artificiality, plus the general security, the lack of incentive to physical effort, are what are responsible for the prevailing subjective tendency, and this subjective tendency is in turn responsible for the development of nerve weaklings. The medical profession must lead and train the will power to normal vigor, and he outlines the rules by which this can be accomplished. Hygienic, dietetic therapeutic measures are as old as history itself, but when they are carried to extremes or are applied in too one-sided fashion they fall into disrepute. This is a warning for those who preach too strenuously the "return to Nature." The second point he emphasizes is that methods which aim to "toughen" are addressed to the senses, striving to render them less susceptible, but "nervousness" is not an affection of the sensory nerves, but of the will. It does no good to send the unfortunates from one sanatorium to another, from spa to spa; this merely confirms them more and more in their weakness of will power. They realize that their will is weak and it distresses them not to be able to will as they wish. The third point is that the "nervous" are extremely susceptible to the influence of suggestion, both of person and word. A course of treatment which has some special name inspires more confidence than one without a name; whether the name of the treatment is scientifically justified or not is immaterial. Resting and exercise, judiciously applied, lead to the same end—anything that can take the patient out of himself, give him an interest in something outside of himself. If he can once be set to some task which makes him feel that he is a useful or indispensable member of society, then his troubles will cease to occupy his mind, and they will thus lose their psychic toxicity. The most effectual factor in this line, His continues, is religious faith, the patient's belief that his personal fate is in the hands of a supreme, benevolent being. He says that he has often witnessed the complete cure of long persisting nervous disturbances when a transformation to such a belief occurred in the religious life of the patient. To advise in all these things is a grateful field of action for a sympathetic and wise physician. The profession can also do much in prophylaxis, never forgetting that the indispensable condition for the "nervousness" is security and prosperity. The profession should promote everything in the line of outdoor sports, etc., guiding them in safe paths, to counteract the dangers of one-sided intellectual training, precocious sexual gratifications, abuse of alcohol and all the ills of life in a great city. Physically vigorous race will be sound also in mind and will power. The body is not a mosaic of organs, but a single well-ordered organism, and there is no need for people to run from specialist to specialist and develop one neurosis after another; what is needed is a trusted adviser for the physical and moral ego, for the organism as a whole, the body and mind, the faithful family physician. The prevailing psychic epidemic, he declares, is the result of certain conditions which we can recognize and the effects of which we can ward off, although it is not in our power to alter the conditions. He regards the compulsory term of military service as a valuable means of promoting health and reducing the tendency to "nervousness." (In his presidential address at the recent Congress for Internal Medicine at Vienna, Miller stated that it is easier now to find a good specialist than a good family physician.)

69. Significance of Retraction of Apex Beat and High Position of Arch of Aorta.—Ortner describes a case of valvular disease distinguished by the noticeable retraction of the chest wall with the apex beat and the extraordinarily high location of the arch of the aorta. Autopsy revealed total pericardial adhesion and adhesion of the sheets of the pleura and of the pleura to the chest wall. The apex was immovably fastened to the chest wall; the aortic stenosis caused dilatation of the heart, but it was so fastened at the apex that it could enlarge only upward, pushing the aorta up above the sternum. He observed these same signs of adhesion in another case, the autopsy findings confirming the diagnosis. Pericardial adhesion can, therefore, be surmised when the apex beat remains immovable at the same point even after evacuation of ascites or other change in the conditions which otherwise would alter the position of the apex. The diagnosis is still more probable when the base of the heart is seen to be unusually high and the arch of the aorta is lifted up above the sternum. These signs not only denote pericardial adhesion, but localize it.

70. Gout, Enlargement of the Spleen and Reduction of Polynuclear Leucocytes.—The patient, a man of 45, previously healthy, developed gout, and the uric acid diathesis was evidently responsible for the enlargement of the spleen and anemia. No other cause could be discovered during life or at autopsy; there was nothing to suggest leukemia. The most exhaustive Roentgen examination failed to show anything abnormal in the gouty joints, even those the seat of severe arthritis. von Jaksch suggests the necessity for examining patients with leucopenia and enlarged spleen to detect coincident uric arthritis.

75. Bradycardia in Appendicitis in Children.—Ten cases are reported by von Bokay in which children with appendicitis presented bradycardia during the period of absorption of periappendicular inflammatory products. The pulse dropped to 52 in some or below 80, but no parallelism could be detected between the curve of the pulse and that of the temperature. The bradycardia is not an unfavorable sign; it may be accepted as an indication that absorption has commenced. It is probably due to irritation of the vagus. He states that he has been unable to find any reference to this symptom in appendicitis except Kahn's article in THE JOURNAL, Dec. 15, 1906, and Kahn mentions bradycardia only in respect to adults. In some of von Bokay's cases the bradycardia came on after operative evacuation of an appendicular abscess, or followed interval appendicectomy, and persisted for several days.

76. Ileus as Complication of Gonorrheal Epididymitis.—Balas reports that autopsy explained the ileus as the result of extension of the process to the vas deferens with perforation, circumscribed peritonitis, adhesion of the intestine to the abdominal wall, kinking and occlusion.

77. Embolism of Pulmonary Artery.—A woman of 43 with mitral stenosis, and four months pregnant, suddenly developed extreme dyspnea and other signs of embolism of the left pulmonary artery. The lung was almost entirely cut off from the circulation, the apex alone giving normal findings. The physical findings indicated that the blood must have rapidly passed into the alveoli and bronchus and coagulated. The patient recovered under morphin, absolute repose and a milk diet.

Therapeutische Monatshefte, Berlin.

April, XXII, No. 4, pp. 165-218.

78 *Cardiac Arrhythmia. (Herzarythmie.) D. Pletnew.
79 *Ocular Tuberculin Reaction from Ophthalmologist's Standpoint. (Ophthalmoreaktion.) A. Siegrist. Id. P. Schultz-Zehden.
80 *Eclampsia and Its Causal Treatment. W. Liepmann.
81 Treatment of Tapeworm. (Bandwurmkur.) F. Schilling.
82 *Transmission of Disease by Insects. (Uebertragung von Krankheiten durch Insekten.) L. Sofer.
83 Diagnosis of Syphilis. Naegeli-Akerblom and Vernier.
84 Does Arsenic Pass into the Hair During Atoxyl Treatment? (Geht bei Atoxylbehandlung Arsen in die Haare über?) Rabow and Strzyzowski.

78. Cardiac Arrhythmia.—Pletnew emphasizes the importance for practice of the results of recent research on the functioning of the heart, especially the behavior of the venous pulse and electrocardiograms. True, permanent hemisystole (von Leyden's), in which the defect reaches actual asystole of one ventricle is probably never observed except with a heart that is gradually dying. On the other hand, the type of hemisystole described by Kraus, while indicating a severe functional injury of the heart, has by no means a bad progno-

sis. Alternating and permanently irregular pulse and atrioventricular dissociation are more serious, while extrasystole and respiratory arrhythmia are much more favorable in regard to the outlook. It is also important to bear in mind that arrhythmia may be observed with an entirely sound heart, some pathologic condition elsewhere being responsible for the aberrations. The irregularity of the pulse can not be properly estimated by the arterial pulse alone, but must be studied in connection with the various organs of the body.

79. **Ocular Tuberculin Reaction.**—Schultz-Zehden reports the results of instillation of tuberculin into the eye for diagnostic purposes in 150 cases. This experience has convinced him that when mishaps have occurred they have been due to instillation of too large amounts of tuberculin. He uses a 1 per cent. solution of "old tuberculin," and although half his patients had various eye affections none seemed to be injured by the instillations. Transient conjunctival reaction was observed in only 2 out of the total 150 cases, but he refrained from applying the test when there was recent injury or corneal ulcer or burst phlyctena, fearing that tuberculous proliferation might follow in an open wound of the kind. The instillation never caused any aggravation of the lesion, even in recent processes. He found further that a healed tuberculous affection of the eyes gave a negative response in several cases. The main point is to obtain a thoroughly reliable and uniform preparation of tuberculin for the test.

80. **Eclampsia and Its Causal Treatment.**—Liepmann thinks that the placenta is the focus furnishing the toxins which cause eclampsia. He relates some experimental research in this line which brings further confirmation to this view. Treatment should, therefore, aim to remove the focus, and he states that statistics from the gynecologic clinics at Würzburg, Basle, Halle and Berlin show an average mortality between 25 and 30 per cent. under expectant treatment, while with immediate delivery the mortality has dropped to 2.8 and even 1.8 per cent. If delivery promises to be easy the obstetrician should induce it in the patient's home, but otherwise should send her at once to a hospital.

82. **Transmission of Disease by Insects.**—Sofer describes a number of experiments on himself and others and reviews the literature on the subject, his conclusions being that the transmission of disease by mosquitoes and ticks has been established beyond question, but that the case has not been proved to date in so far as bedbugs, fleas and lice are concerned. The fact that these insects contain pathogenic germs does not necessarily entail that they can transmit them to man in a condition to produce the disease in question.

Therapie der Gegenwart, Berlin.

April, XLIX, No. 4, pp. 145-192.

85 *Treatment of Chronic Endometritis. C. Menge.
86 Pathogenesis of Gout. (Gicht.) P. Linser.
87 *Care of Inebriates. (Auskunfts- und Fürsorgestellen für Alkoholkranke.) B. Laquer.

85. **Formalin Treatment of Chronic Endometritis.**—Menge believes in general tonic measures and efficient local treatment. He here gives an illustrated description of the technic with which he has been successful in fifteen years of office practice, stating that nothing answers the purpose like the intrauterine application of a fluid caustic. For this he prefers a 50 per cent. solution of formalin. This caustic is powerful, but not too profound in its action while it is an efficient disinfectant. He applies it on a hard rubber sound wound with a narrow strip of cotton. Several of these sounds are held in readiness in a jar half full of the formalin solution. He makes it a principle never to make an internal examination of the genitals just before this local treatment, and never cauterizes at the first consultation. Forty-eight hours after the last internal examination allows time for the vaginal secretions to wash out any infectious germs. Gonorrheal and postgonorrheal endometritis always takes the longest time to cure. He adds that in two instances the technic may have been responsible for the propagation of a gonorrheal endometritic process to the tubes, but these were the only exceptions to the rule of favorable results in hundreds of cases.

87. **Care of Inebriates.**—Laquer compares the plague of tuberculosis to the plague of alcoholism, and ranks the latter as of far greater import for the state and society. Tuberculosis does not leave such a trail of idiots, epilepties, degenerates and criminals as alcohol, and, fortunately, no one profits by the spread of tuberculosis, while the millions of capital invested in the production and sale of alcoholic drinks are directly interested in perpetuating and spreading the plague of liquor drinking. He estimates at $25,000,000 the annual expense to the German army, prisons, insane asylums and hospitals caused by liquor drinking, and states that while statistics in Germany show that the percentage of deaths from tuberculosis has dropped from 3.1 in 1885 to 1.9 per cent. in 1902, the number of patients admitted to hospitals and asylums on account of alcoholism has quadrupled in this period. He advocates the organization of antialcohol dispensaries and registers similar to those now being established for the tuberculous, in charge of physicians, with the cooperation of the police, insurance societies, charitable organizations, etc.

Münchener medizinische Wochenschrift.

April 7, LV, No. 14, pp. 713-776.

88 *Functional Reduction in Size of the Heart. (Funktionelle Verkleinerung des Herzens.) F. Moritz.
89 Heart "Alternans" and Its Relations to Continuous Heart "bigeminus." (Herzalternans und seine Beziehungen zur kontinuierlichen Herzbigeminie.) D. v. Tabora.
90 *Sudden Death in Heart Disease. (Mors subita der Herzkranken.) E. H. Kisch.
91 Tobacco Smoke. (Tabakrauchen.) K. B. Lehmann.
92 *Müller's Test for the Functioning of the Pancreas. H. Schlecht.
93 *Test for Pus with Millon's Reagent. (Zur Prüfung des Eiters.) L. Dreyer.
94 The Antiferments in Human Blood Serum. G. Jochmann and A. Kantorowicz.
95 *Cutaneous Reaction to Inoculation of Killed Cultures. (Hautreaktion bei Impfugen mit abgetöteten Typhus-Paratyphus B- und Kolikulturen.) R. Link.
96 Roentgen Differentiation of Ossification of Costal Cartilages. (Nachweis der Rippenknorpelverknöcherung.) F. M. Groedel.
97 Culture Medium: Perhydrase-Milk-Agar. E. Fraenkel and H. Much.
98 Culture Medium for Gonococci. Piorkowski.
99 Mutual Relations Between Lymphosarcomatosis and Tuberculosis. C. E. Brandts.
100 Experimental Cirrhosis of Liver. Id.
101 *Permanent Anesthesia in Tuberculous Larynx. (Dauerunästhesie im tuberkulösen Kehlkopf.) R. Hoffmann.
102 *Diagram of the Trunk. (Schema des Rumpfes.) W. Hildebrandt.
103 *Persisting Thymus, Apoplectic "Thymus Death," and Relations Between the Persisting Thymus and Exophthalmic Goiter. (Beziehungen der Thymuspersistenz zur Basedowschen Krankheit.) C. Hart. Commenced in No. 13.

88. **Functional Reduction in Size of Heart.**—Moritz found that the heart grew smaller in persons lying on a flat table, the trunk fastened, but the arms free to raise weights and the legs free to be raised repeatedly from the level of the table until exhausted. Under the influence of this exercise the heart grew considerably smaller even when it was pathologically dilated, as he shows by reproductions of the orthodiagraphic outlines before and after. He thinks that this fact should encourage the cautious application of gymnastic exercises in treatment of heart affections, as the heart thus displays a tendency to become reduced in size when it beats more rapidly under the influence of functional stimulation.

90. **Sudden Death in Heart Disease.**—Kisch has had opportunity to make postmortem examination in 156 cases of sudden death of persons with heart disease, and he here reviews this material. It shows that under the age of 30 persons with heart disease are not more liable to sudden death than others, but that between 30 and 50 the proportion of sudden deaths is much larger, and after 50 those with affections of the heart and vessels must face the prospect of sudden death. Obesity and general arteriosclerosis afford a peculiar predisposition to sudden death, especially after 50, and in persons addicted to alcohol. In 15 per cent. of the material reviewed, a combination of mitral and aortic insufficiency was noted. He regards a very irregular pulse picture, actual cardiac delirium, as almost invariably a sign that death may occur suddenly at any time. The same applies also to extreme bradycardia, when the pulse waves show the anacrotism of pulsus tardus. When he encounters these conditions he warns the family at once of the possibility of sudden dissolution, and although the

shock at first is great, as in many instances the patient does not realize his condition, yet the precautions that are at once taken prolong life. The combination of emphysema of the lung with a cardiac affection also predisposes to sudden death, as also recurring attacks of angina pectoris after 60 and cardial asthma with paroxysmal dyspnea, although death seldom occurs during the attack. The immediate causes of sudden death in the course of heart disease in his material were hearty meal, banquet, drinking champagne, celebrating the eightieth birthday, the effort of climbing into a railroad car or climbing a hill, dancing, attack of coughing, straining at stool, coitus or gallstone, kidney and intestinal colic. The heart failure sometimes occurred during convalescence from pneumonia or typhoid or in pregnant women. When a piece of meat is found lodged in the throat the sudden death may also be due to reflex paralysis of the heart instead of the assumed suffocation. He notes further the familial tendency to sudden death prominent in some of his cases; in one instance three brothers and the father all died suddenly at about 50. The weather and season also seem to have a certain influence on sudden death in heart patients, especially abrupt changes in the weather. The sudden death is almost invariably fulminating; only very rarely does the individual linger for a few minutes or die from pulmonary edema after a few hours.

92. **Müller's Test of Pancreas Functioning.**—This communication reports favorable experiences with Müller's test of pancreas functioning at von Strümpell's clinic at Breslau. The simplicity and convenience of the test commend it, Schlecht says, while it is thoroughly reliable and requires only a few drops of fecal matter. Another advantage is that the material is sterilized by the high temperature. The test is based on the proteolytic action of the pancreatic ferment, trypsin. The patient is given a test meal and two hours later a calomel purge. A few drops of the thin stool then obtained are sown on a plate of Loeffler serum, which is kept for twenty-four hours at a temperature of 131 to 141 F. If there is any of the pancreatic ferment in the stool, the surface of the Loeffler serum shows pronounced depressions where the proteolytic ferment has been at work. In the absence of the pancreatic ferment the surface of the serum remains smooth, with no tendency to dimpling (Dellenbildung).

93. **Differentiation of Tuberculous Pus with Millon's Reagent.**—A drop of pus added to Millon's reagent causes the formation of a firm pellicle if the pus is of tuberculous origin, which is not observed with ordinary pus. The fluid also remains colorless with tuberculous pus while with pus of other origin it turns bright red. Dreyer has been applying this differential test in 41 cases of tuberculosis and 32 of ordinary pus processes, and found the tough pellicle a constant occurrence in the tuberculous cases, while in the non-tuberculous there was merely a patch of film in the center which fell to pieces at any attempt to lift it. The red discoloration was less constant. In mixed infection the response to the test is the same as with ordinary pus. The Millon reagent is a mixture of one part mercury and one part nitric acid with a specific gravity of 1.4 diluted with two parts water and decanted.

95. **Cutaneous Reaction to Killed Typhoid, Paratyphoid and Colon Bacilli Cultures.**—Link reports the findings in 14 individuals, some healthy and others with a history of typhoid, paratyphoid or colon bacillus infection. A cutaneous reaction was generally obtained and in many cases it paralleled the agglutinating property for the bacilli in question. In others the features of the reaction suggested that it is more an expression of the immunity of the individual.

101. **Induction of Permanent Anesthesia in Tuberculous Laryngitis.**—Hoffmann gives an illustrated description of a simple apparatus with which the patient is able to insufflate, himself, the anesthetic powder and thus anesthetize the region before eating. It is an open cup on the end of a bent tube. The powder is placed in the cup, the other end of the tube introduced into the throat, and the powder inhaled through the tube. In two cases he has induced permanent anesthesia in the region by injecting alcohol at the emerging point of the superior laryngeal nerve through the thyroid ligament. This arrests conduction of sensory impulses while it does not interfere with motor functioning. The patients can swallow food without further pain, but the swallowing of fluids is still more or less painful—less so when warm. He injects from 0.5 to 1.5 c.c. of alcohol, pushing the needle in for about 1.5 cm. The injection is harmless and can be repeated at need, while the patient's general condition is so improved by the nourishment which he is then able to take without pain that operative intervention later may be contemplated. Hoffmann is now engaged in research to determine the exact distribution of the sensory vagus in the region to perfect the technic of bilateral injection of alcohol in these cases.

102. **Diagram for Registering Physical Findings.**—Hildebrandt proposes a diagram of the trunk showing ribs, spine and pelvis spread out as in a map drawn on Mercator's projection. He shows by numerous examples how easy and simple it would be to keep records of cases by a few figures and signs marked on such a diagram.

103. **Relations Between Persistence of the Thymus and Exophthalmic Goiter.**—Hart mentions among other arguments in favor of a connection between persistence of the thymus and exophthalmic goiter that the affection was always unusually grave in the cases on record in which this coincidence was noted, particularly when removal of the goiter was followed by sudden death. Exophthalmic goiter is generally accepted as due to perverted functioning of the thyroid gland, but he suggests that the perversion of function may be the result of persistence of the thymus. The thymus may persist long enough to start the exophthalmic goiter and then atrophy, possibly under the influence of some intercurrent infection. He presents evidence to show that the thymus alone is able to induce heart and vascular disturbances. In his cases of persisting thymus in exophthalmic goiter, the thymus had all the characteristics of the juvenile organ and was not a secondary hyperplasia.

Wiener klinische Wochenschrift.

April 2, XXI, No. 14, pp. 453-516.

104 *Immunization by Mouth. (Immunisierung per os.) F. Chvostek.
105 *Elimination of Chlorids in Urine in Kidney Affections. (Uraemia achlorica. Stadium achloricum sine albumine bei akuter Nierenentzündung.) L. A. Gluzinski.
106 *Leukemia and Roentgen Treatment. R. v. K. Jaksch. Id. R. Kretz.
107 Peculiar Form of Progressive Fibrous Myositis. H. Lorenz.
108 *Pericardial Adhesion. (Concretio et Accretio cordis.) N. Ortner.
109 *Leucosarcomatosis. C. Sternberg.
110 *Diagnosis of Pancreatic Affections. (Pankreaserkrankungen.) H. Salomon.
111 *Pathogenesis of Catarrhal Icterus. H. Eppinger.
112 Process of Filling the Stomach. Nature of Atony. (Vorgang der Magenfüllung.) A. Müller and P. Saxl.
113 Vicarious Activity of Intestine in Nephritis. (Vikariierenden Tätigkeit des Darmes bei der Nephritis.) C. Rudinger.
114 Experiments on Organs Undergoing Autolysis. L. Hess and P. Saxl.
115 Lipoproteids and Significance of Degenerative Fatty Changes in the Cells. S. Bondi.
116 Method for Determining Acidity of Gastric Juice. (Bestimmung der Azidität des Magensaftes.) A. Müller.
117 *Chronic Polyserositis. (Morbus Bamberger.) E. v. Neusser.
118 *Orthostatic Albuminuria. R. v. Stejskal.
119 Occurrence of Inhibiting Processes in Reaction-Complex: Blood, Immune Serum and Complement Serum. R. v. Stejskal and R. Fleckseder.
120 Opsonins and Pregnancy. (Opsonine und Schwangerschaft.) K. K. Koessler and W. Neumann.
121 *Functional Diagnosis of Medical Kidney Affections. (Funktionelle Diagnostik medizinischer Nierenkrankheiten.) V. Blum.
122 *Colon Bacillus Infection of Respiratory Organs. (Kolibazillose der Respirationsorgane.) H. v. Schrötter and M. Weinberger.
123 Non-agglutinating Strains of Typhoid Bacilli. (Inagglutinable Typhusstämme.) M. Eugling and R. Grassberger.
124 Special Affinity of Kidney Vessels for Adrenalin. D. Jonescu.

104. **Immunization by Way of the Mouth.**—Chvostek's researches confirm those of Calmette, Loeffler and others in regard to the possibility of inducing active immunity in animals by feeding them with virulent killed cultures of micro-organisms and toxins. The results, however, are uncertain and far behind those obtained by the subcutaneous and intravenous routes.

105. **Elimination of Sodium Chlorid in Kidney Affections.**—Gluzinski describes several cases of kidney affections which

were distinguished by the retention of sodium chlorid, the urine being entirely free from it, while a peculiar uremia syndrome was observed. General symptoms came on gradually—much depression, with vomiting and progressively increasing proportions of hydrochloric acid in the vomit, excessive thirst, no muscular pains or headache, and the mind clear. This "achloric uremia" may gradually subside in the course of a few days and the patient recover, or it may progress with increasing weakness, agitation and loss of consciousness, and terminate fatally without convulsions, as occurred in one of his cases in three weeks, the patient, a man of 60 with arteriosclerosis of the renal vessels and chronic interstitial nephritis. Before acute nephritis manifests itself by the usual signs it may be possible to detect its development by the general weakness, vomiting, traces of edema, retention of sodium chlorid, reduction in amount and cloudiness of the urine, with tube casts and red corpuscles in the urine, but no albumin for the time being. Systematic examination of the urine during convalescence from scarlet fever would reveal this incipient phase of nephritis. It is probably the manifestation of acute parenchymatous degeneration, and retention of sodium chlorid is the first sign.

106. **Improved Roentgen Technic and Leukemia.**—THE JOURNAL, Jan. 25, 1908, page 324, referred to the good results obtained by von Jaksch in Roentgen treatment with elimination of the dangerous rays by interposition of a thin sheet of silver.

108. **Syndrome of Pericardial Adhesion.**—Ortner ascribes the congestion in the liver and the resulting ascites to the fact that the diaphragm is usually immovably fastened with pericardial adhesion as it is almost invariably accompanied by an affection of the pleura aiding in immobilization of the diaphragm. This assumption explains the clinical picture, he thinks, and he describes a case personally observed in which all the symptoms indicated pericardial adhesion, but no adhesion was found at autopsy, merely polyserositis with the sheets of the pleuræ adherent. The diaphragm had been thus immobilized, and the syndrome regarded as typical of pericardial adhesion was presented.

109. **Leucosarcomatosis.**—Sternberg reports some cases and calls attention to one in particular in which a child of 11 developed depression and dyspnea, the legs swelled, the abdomen and spleen became enlarged and the blood showed the signs of large-celled pseudoleukemia with elements characteristic of leucosarcomatosis. The dura mater was found sown with foci. The condition had developed independently of any preceding lymphatic leukemia, and it ran a course of about a year.

110. **Diagnosis of Affections of Pancreas.**—Salomon states that on an oatmeal gruel diet the stools show the presence of undigested fat typical of pancreatic disturbances when such exist. Several diabetic patients on a course of oatmeal according to von Noorden's technic had these typical "butter stools" the second day of the oatmeal diet. He has also found it frequently in surgical affections of the pancreas when the patients were kept on oatmeal gruel. He states further that an unusually large proportion of lecithin is found in the stools when the pancreas is not functioning normally. He found from 0.4 to 1.2 gm. a day on an egg diet while the amount never was above 0.1 gm. in normal or pathologic conditions with the pancreas working properly.

111. **Pathogenesis of Catarrhal Jaundice.**—Eppinger's patient was a young woman with a typical case of catarrhal jaundice, who fell from a third-story window and was picked up dead. The anatomic conditions were those of mechanical occlusion of the common bile duct at its mouth by inflamed processes which he is convinced were actual adenoid growths such as are observed in the throat.

117. **Chronic Polyserositis.**—The patient in the case described by von Neusser was a woman of 24 with chronic inflammation, thickening and linear adhesions in almost all the serous membranes, but especially around the spleen. The process developed very slowly, with little or no symptoms of inflammatory or local irritation; there was serous transudation at certain points. The patient succumbed by the end of the fifth year. The case had been diagnosed as Banti's disease or tuberculous cirrhosis of the liver with serositis, but autopsy failed to confirm either diagnosis. In this and in another case reported, as well as in others he has observed, a bacterial origin seems probable. Further bacteriologic research in such cases may throw light on the etiology of acute articular rheumatism, as there seems to be a certain analogy between it and chronic polyserositis. The clinical picture varies with the special involvement of the different serous membranes, the multiplicity and intensity of the anatomic localization. The most frequent form, he says, is Pick's pericardial pseudocirrhosis of the liver; this is followed in turn by "icing" liver; then come pseudocancer of the stomach and pseudophthisis of the lungs. He reviews the symptoms that aid in differentiating polyserositis or perivisceritis from cirrhosis. Any peculiar features of an assumed cirrhosis should suggest the possibility of the former.

118. **Orthostatic Albuminuria.**—Considerable experience with orthostatic albuminuria has shown that the condition is sometimes associated with actual nephritis and may be the only sign of an insidious kidney affection, but this is doubtful if the orthostatic albuminuria drags along for years. When orthostatic albuminuria develops at puberty it is usually accompanied by "cor juvenum," and both kidneys seem to participate in the albuminuria and it generally vanishes in two or two and a half years at most. When the secretion and the functioning of the two kidneys differ with prolonged orthostatic albuminuria there is probably some actual kidney lesion. Catheterization of the ureters and functional tests of the behavior of the two kidneys separately will readily differentiate the harmless cases of orthostatic albuminuria from those with a graver prognosis. The trouble seems to be due to inability of the vasomotors to adapt themselves to varying conditions, with the result that the blood stream in the renal vessels is rendered more sluggish when the individual stands while the blood flows more rapidly when he sits or reclines.

121. **Functional Tests of Kidney Affections.**—Blum presents evidence to confirm the assumption that the parenchymatous lesion may at first be localized in one kidney alone as chronic nephritis develops. The other kidney compensates the lesion by vicarious action for a time, so that general symptoms of the nephritis do not develop at first, the only symptom to attract attention to the trouble being hematuria or albuminuria with or without tube casts. In four cases the kidney was exposed on the diagnosis of "idiopathic kidney hemorrhage" and an unsuspected parenchymatous lesion was found, the vicarious action of the sound mate having prevented other manifestations beyond the hematuria. Orthostatic albuminuria may occur in one kidney alone when conditions interfere with the local circulation as in a case of intermittent hydronephrosis in his charge and in others of wandering kidney with intermittent compression of the artery.

122. **Colon Bacillus Bronchopneumonia.**—The patient was a young butcher who came to the clinic on account of general depression, obstinate coughing and expectoration and deafness, but no abdominal symptoms. The objective findings were those of pneumonia of both lower lobes. The sputum was that of suppurative bronchitis. The disease lasted about four months, from the first symptoms to complete recovery. The throat was swollen and inflamed at first, and there was marked pallor, even to a livid aspect. There was herpes on the lower lip and the hair fell out for about twelve days, but the blood picture was constantly normal. The colon bacillus was cultivated from the throat and sputum and the agglutination test with this bacillus was positive.

Zentralblatt für Chirurgie, Leipsic.

April 4, XXXV, No. 14, pp. 425-456.

125 Origin of Branchial Fistula. (Entstehung der seitlichen Halsfisteln—sog. Kiemenfisteln.) R. Weglowski.

April 11, No. 15, pp. 457-488.

126 *Treatment of Old Pronation-Luxation of the Foot. H. Hoffmann.

126. **Treatment of Pronation-Luxation of Foot.**—For two months the foot in the case described had retained the posi-

tion of the luxation, the inner margin facing downward and being twisted on its longitudinal axis fully 60 degrees. Osteotomy of tibia and fibula above the malleoli restored normal functional conditions. A plaster cast was worn for a time after the operation and a flat foot insole later. The osteotomy first rendered it possible to restore the foot to approximately normal position, reduction having been defective, even with a cast, before.

Zentralblatt für Gynäkologie, Leipsic.

April 11, XXXII, No. 15, pp. 473-504.

127 *Manual Treatment of Postpartum Hemorrhage from Atony. (Neuer Handgriff zur Behandlung der atonischen Nachblutungen.) L. Goth.
128 *Prophylaxis of Embolism After Gynecologic Operations. A. Sippel.
129 Instrument for Local Medicinal Treatment of Mucosa of Uterine Cervix. (Behandlung der Schleimhaut der Cervix uteri.) O. Hasenfeld.

127. **Manual Treatment of Postpartum Hemorrhage from Atony.**—Goth seizes the uterus from below and pushes it upward. The abrupt change in the position of the uterus and the drawing up of the vaginal mucosa induce reflex processes which have been useful in his experience in arresting postpartum hemorrhage from atony of the uterus. He describes eight cases in detail to show the method of application of the measure. In two other cases the measure proved ineffectual, and when this occurs he advises investigation at once to see if there is retention of fetal membranes or application at once of the Dührssen tamponing technic. He passes the thumb and forefinger down behind the pubic symphysis and grasps the uterus at the region of the internal os and pushes it upward, while with the other hand the body is pressed forward and friction applied to the fundus as with the ordinary technic. The rubbing and pressure on the posterior aspect, in conjunction with the pressure from below, compresses the uterine cavity. As the uterus is thus lifted the rubbing can be done more effectually, and the uterus usually responds with energetic contractions.

128. **Prophylaxis of Embolism After Gynecologic Operations.**—Sippel advocates keeping the pelvis raised for a couple of days after a gynecologic operation in which large veins in the pelvis have had to be divided. Continuing to keep the patient in the Trendelenburg position, even after the operation, while she is being carried back to bed and afterward, there is no danger of thrombosis as the mechanical conditions forbid it in this position. The blood flows constantly toward the center from the higher pelvic veins. After two days the position can be gradually changed to the horizontal. He explains the reasons why the danger of embolism is greater with the iliac and ovarian than the other veins. The proper position after the operation is obtained by allowing only a thin pillow for the head and placing the foot of the bed on a couple of stout chairs. After two days the chairs are replaced by stools for a few hours, before letting the bed down to the floor. Since he has adopted this principle he has had no mishaps from pulmonary embolism in more than a hundred myoma operations. It is so important, he thinks, to refrain from allowing the blood to accumulate in the pelvic veins that this counterbalances all the advantages of allowing the patients to be up early.

Policlinico, Rome.

April, XV, Medical Section, No. 4, pp. 145-192.

130 Action of Radium on Vaccine. (Azione del radium sul pus vaccinico.) S. Sereni.
131 *Transient Glycosuria from Nervous Shock. (Glicosurie transitorie da trauma psichico.) R. Ricci.
132 Hereditary Ataxia in Fourteen Months Infant. (Malattia di Friedreich in una bambina.) C. A. Crispolti.
133 *Agglutinating Test in the Tuberculous. (Semeiologia della reazione agglutinante nella tubercolosi.) L. Massini.

Practical Section, No. 15, pp. 453-484.

134 Inhibiting Action of Cerebrospinal Fluid on Rabies Poison. (Potere lissicida ed immunizzante del liquido cefalo-rachidiano di animali sani, rabidi ed immunizzati.) C. Fermi.
135 Epidemic Among Infants of Multiple Cutaneous Abscesses. (Ascessi multiple della pelle.) P. Pellicciotti.

131. **Transient Glycosuria from Nervous Shock.**—Ricci reports a number of examples of transient glycosuria in persons after an accident, operation or intense mental effort. He found transient spontaneous glycosuria in 26 per cent. of 30 persons brought to the emergency hospital suffering from the nervous shock and other effects of an accident; also in 23 per cent. of 17 physicians taking an examination for an important competitive position. He also found it possible to induce alimentary glycosuria in 40 per cent. of 15 patients facing or having just passed through some major operation. None of the patients had glycosuria before the nervous shock in question. In conclusion he discusses the mechanism of this transient glycosuria.

133. **Agglutinating Reaction in Tuberculosis.**—Massini ascribes considerable importance to the agglutinating test to supplement others, but warns that the findings can not be depended on during the course of acute infections, or in mercury or lead poisoning.

Norsk Magazin for Lægevidenskaben. Christiania.

April, LXIX, No. 4, pp. 301-412.

136 *Immunity to Tuberculosis. K. F. Andvord.
137 Casuistics and Genesis of Ovarian Dermoids. A. Ingier.

136. **Immunity to Tuberculosis.**—Andvord thinks that tuberculous glandular processes in children leave the system immunized to other forms of tuberculosis after healing. He attributes chronic pulmonary tuberculosis in adults to some primary glandular process. "Galloping consumption" is probably primary, he thinks, the infection occurring by inhalation in persons free from a primary glandular process and thus not immunized, or an acquired immunity having died out. He ascribes to the gastrointestinal route the origin of the other forms of the disease. Treatment should aim to assist the organism in establishing immunity, and it should be commenced at the first sign of glandular infection, as representing the initial phase of tuberculosis, when it can most easily be stamped out.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

DISEASES OF CHILDREN. Edited by M. Pfaunder, Director of Children's Clinic at the University of Munich, and A. Schlossmann, Director of Children's Clinic at the Medical Academy in Dusseldorf, with an Introduction by L. Emmett Holt, M.D., New York, Professor of Pediatrics, Columbia University. In Four Volumes, Illustrated. Cloth. Price, $20.00 per set. Philadelphia and London: J. B. Lippincott Co.

TYPHOID FEVER. By George C. Whipple, Consulting Engineer, with an Introductory Essay by William T. Sedgwick, Professor of Biology, Massachusetts Institute of Technology. First Edition. Cloth. Pp. 407, with Illustrations. Price, $3.00. New York: John Wiley & Sons, 1908.

FEVER NURSING. By Reynold Webb Wilcox, M.A., M.D., LL.D., Ex-president of the American Therapeutic Society. Second Edition. Revised and Illustrated. Cloth. Pp. 229. Price, $1.00. Philadelphia: P. Blakiston's Son & Co., 1908.

MEDICAL MISSIONS. By J. Rutter Williamson, M.B., Edinburgh University, Traveling Secretary Student Volunteer Movement. Cloth. Pp. 95. Price, 10 cents. New York: Student Volunteer Movement for Foreign Missions, 1899.

ANNUAL REPORT OF THE BUREAU OF HEALTH OF THE PHILIPPINE ISLANDS FOR THE FISCAL YEAR ENDED JUNE 30, 1907. Paper. Pp. 176, with illustrations. Manila: Bureau of Printing, 1907.

THE MEDICAL MISSION. By W. J. Wanless, M.D., Medical Missionary under the Presbyterian Board in Western India. Paper. Pp. 96. Philadelphia: Westminster Press, 1906.

PRACTICAL LIFE INSURANCE EXAMINATIONS. By Murray Elliott Ramsey, M.D. Cloth. Pp. 230. Price, $1.25. Philadelphia and London: J. B. Lippincott Co., 1908.

THE SPECTROSCOPE. By T. Thorne Baker, F.C.S., F.R.P.S. Cloth. Pp. 130, with illustrations. Price, $1.75. New York: William Wood & Co., 1907.

SIXTEENTH ANNUAL REPORT OF THE BOARD OF HEALTH, CITY OF SPOKANE, WASHINGTON, FOR THE FISCAL YEAR ENDING DEC. 31, 1907. Paper.

HEALTH AND HAPPINESS. By Robert Maxwell Harbin, A. B., M.D. Cloth. Pp. 184. Price, $1.20. Philadelphia: Griffith & Rowland Press, 1908.

ANNUAL REPORT, 1907-8, VASSAR BROTHERS' HOSPITAL. Poughkeepsie, N. Y. Paper. Pp. 28. Poughkeepsie, N. Y.: A. V. Haight Co., 1908.

PARSON GAY'S THREE SERMONS. By Robert T. Edes, M.D. Cloth. Pp. 151. Price, $1.50. New York: Cochrane Publishing Co., 1908.

THE PROVOST'S REPORT, UNIVERSITY OF PENNSYLVANIA, FOR THE YEAR ENDING AUGUST 31, 1907. Paper. Pp. 293.

THIRTEENTH ANNUAL REPORT OF THE JOHN CREERAR LIBRARY FOR THE YEAR 1907. Paper. Pp. 70.